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General Education in a Free Society

THE COMMITTEE ON THE OBJECTIVES OF A GENERAL EDUCATION IN A FREE SOCIETY, 1945

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GENERAL EDUCATION IN A FREE SOCIETY

Report of the Harvard Committee

WITH AN INTRODUCTION BY
JAMES BRYANT CONANT



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Introduction

The war has precipitated a veritable downpour of books and articles dealing with education. In particular the future of the liberal arts colleges has been a subject of widespread discussion both within and without the academic walls. There is hardly a university or college in the country which has not had a committee at work in these war years considering basic educational questions and making plans for drastic revamping of one or more curricula. Nor have larger group activities been missing. The Association of American Colleges has not only sponsored the publication of a book on the liberal arts but has also arranged important conferences dealing with various phases of college education. With this background in mind, the reader may wonder why the report of one more university committee should be presented to the public in book form. He may well ask, what merit, if any, resides in this particular treatment of a familiar subject – collegiate education?

The answer lies in the fact that, in spite of its origins, the book is not primarily concerned with collegiate education. Rather, it is an inquiry into the problems of general education in both school and college by a Committee largely composed of members of the Faculty of Arts and Sciences, – in short, men of distinction in special fields of learning. In other words, the report of the Harvard Committee on "The Objectives of a General Education in a Free Society," which is printed here in full, presents a view of the total American educational scene. The recommendations as to changes in the Harvard College curriculum (which in due course will be debated by the Faculty) were arrived at only after the Committee had spent months examining the entire problem of providing adequate education for all American youth. Therefore, in one sense this is a report of experts, in another sense a report of an impartial jury of laymen determined to find the facts.

That a group of men whose lives had hitherto been devoted

to university affairs should take great pains and spend much time investigating the current educational situation in the United States is, I believe, without precedent. That they were joined in the enterprise by colleagues from the Faculty of Education who knew the schools from long experience makes the case no less exceptional. The first four chapters of this book are, therefore, the product of a study unique in the history of American education.

A further unusual if not unique feature of the report is evident if one considers that the document represents a unanimity of opinion not based on compromise between divergent views. And when one adds the comment that the Committee was appointed from both the Faculty of Arts and Sciences and the Faculty of Education, such unanimity is recognized as not only exceptional but of high significance. To one who has listened for years with considerable dismay to the "educators and school men" belaboring the "professors" and vice versa, this unanimity seems like the dawn of a welcome day. The writer of the foreword is obviously a biased witness, but to him the first four chapters are a heartening sign that college professors and school teachers and administrators can come to understand each other's difficulties if they will put their minds upon the task. For I think the members of the Committee would be the first to say that if, as is often the case with academic committees, they had been forced to write a report after a few months of deliberation, both unanimity and understanding of the nature of the problem would have been conspicuous by their absence. The title of this book might well be "A *Study* of American Education."

The letter of transmittal mentions briefly the methods by which the study was conducted. But a casual reader may easily miss an important point if he fails to realize that the Committee was not only considering the problem for nearly three years, but spent the equivalent of many weeks of eight-hour working days in its investigations and deliberations. The assistance of numerous collaborators of wide experience and high standing, and the consultations with many school and college men who came to Cambridge required, of course, a budget for expenses considerably

beyond that which one normally expects a faculty committee to spend. It has turned out that the $60,000 appropriated by the Harvard Corporation for the expenses of the Committee was a fairly accurate measure of the monetary cost of the undertaking. The cost in terms of the time and energy of the members, while strictly speaking incalculable, is obviously of a different order of magnitude. Indeed, it is such cost that usually makes academic enterprises of this sort prohibitively expensive. But in the case at hand, the importance and the urgency of the problem appeared to warrant what was planned.

Readers of the document who share the writer's enthusiasm for the outcome will recognize the debt which Harvard owes to the twelve men whose names appear on the letter of transmittal, and above all to the Chairman, Professor Paul H. Buck, Dean of the Faculty of Arts and Sciences. Those who are familiar with committees will recognize the hand of genius in this work, for without a presiding officer who is both effective and understanding no such labor can ever be brought to a successful conclusion.

Potential readers of this book may be divided into three classes: educators concerned with school problems, educators concerned with university and college problems (and I include in this category all professors of arts, letters and professional subjects whether or not they bridle at the designation), and laymen. The third group hardly needs to be reminded that a book — even a book which is an educational report — is designed to be read as a whole. With the school and college teachers and administrators, the case is somewhat different. Each group will be concerned primarily with the relevance of the report to their particular problems. Therefore, I may be permitted perhaps to issue a solemn warning: any judgment based on an incomplete or fragmentary reading is not only unfair to the authors, but almost certain to be false. The book must be taken as a unit. The fifth chapter dealing with the problems of one particular college, for example, may have significance for other colleges, but it is almost certain to be misunderstood if taken apart from the first four chapters; similarly with chapter four which deals with some aspects of secondary education.

There will be some who open the book with an initial prejudice against the contents derived from the title. "General education," they may exclaim, "what's that? I'm interested only in liberal education – that's what the country needs." For the use of the current phrase "general education" instead of "liberal education," the writer is ready to take his share of blame. Shortly after the Committee had been appointed (in January, 1943, to be exact) I reported to the Board of Overseers of Harvard University as follows:

". . . I am taking the liberty of appointing a University Committee on 'The Objectives of a General Education in a Free Society.' This committee, composed of members of several faculties including Arts and Sciences and Education, I hope will consider the problem at both the school and the college level. For surely the most important aspect of this whole matter is the general education of the great majority of each generation – not the comparatively small minority who attend our four-year colleges. . . .

"The heart of the problem of a general education is the continuance of the liberal and humane tradition. Neither the mere acquisition of information nor the development of special skills and talents can give the broad basis of understanding which is essential if our civilization is to be preserved. No one wishes to disparage the importance of being 'well informed.' But even a good grounding in mathematics and the physical and biological sciences, combined with an ability to read and write several foreign languages, does not provide a sufficient educational background for citizens of a free nation. For such a program lacks contact with both man's emotional experience as an individual and his practical experience as a gregarious animal. It includes little of what was once known as 'the wisdom of the ages,' and might nowadays be described as 'our cultural pattern.' It includes no history, no art, no literature, no philosophy. Unless the educational process includes *at each level of maturity* some continuing contact with those fields in which value judgments are of prime importance, it must fall far short of the ideal. The student in high school, in college and in graduate school must be

concerned, in part at least, with the words 'right' and 'wrong' in both the ethical and the mathematical sense. Unless he feels the import of those general ideas and aspirations which have been a deep moving force in the lives of men, he runs the risk of partial blindness.

"There is nothing new in such educational goals; what is new in this century in the United States is their application to a system of universal education. Formal education based on 'book learning' was once only the possession of a professional class; in recent times it became more widely valued because of social implications. The restricted nature of the circle possessing certain linguistic and historical knowledge greatly enhanced the prestige of this knowledge. 'Good taste' could be standardized in each generation by those who knew. But, today, we are concerned with a general education — a liberal education — not for the relatively few, but for a multitude."

Whether or not one wishes to equate the terms "liberal education" and "general education" at the college stage, the latter phrase has advantages when one examines in a comprehensive way the manifold activities of American schools and colleges. If the Committee had been concerned only with Harvard College, the title might have read "The Objectives of a Liberal Education." A minor annoyance, to be sure, would have arisen quickly, for many specialists in various faculties would have been ready to testify eloquently to the fact that their specialty if properly taught was in and by itself a liberal education. No such claim has as yet been made in terms of a general education. But quite apart from this quarrel over the meaning of a much used and much abused adjective, any serious consideration of the problems of American schools would have been difficult for a university group designated as a committee on liberal education. The reasons lie deep in the history of American education in this century and are evidence of the cleavage between "educators" and "professors" to which I have referred already. Phrases become slogans and slogans fighting words in education no less than in theology.

Therefore, I may express the hope that the reader of this book

will drop, as far as possible, his educational prejudices for the moment and forget the overtones of many hackneyed phrases as he explores through the eyes of a group of university professors — scientists, classicists, historians, philosophers — the present status of the American educational system. I hope he will proceed with them sympathetically as they consider ways and means by which a great instrument of American democracy can both shape the future and secure the foundations of our free society.

JAMES BRYANT CONANT

Cambridge
June 11, 1945

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Letter of Transmittal

PRESIDENT JAMES BRYANT CONANT
HARVARD UNIVERSITY

Sir:

In the spring of 1943 you appointed a University Committee on the Objectives of a General Education in a Free Society, with members drawn from the faculties of Arts and Sciences and of Education. Your instructions to the committee were as expansive as its name was long. We were urged to consider the problem of general education in both the school and the college. We were cautioned that the general education of the great majority of each generation in the high schools was vastly more important than that of the comparatively small minority who attend our four-year colleges. You advised us that the educational process falls short of its ideal unless it includes at each stage of maturity some continuing contact with liberal and humane studies. The goals of these studies, you said, had been the topic of prolonged discussion; so much so that the peculiar character of the problem was in danger of being missed. "There is nothing new," you asserted, "in such educational goals; what is new in this century in the United States is their application to a system of universal education."

In short, we were directed not so much to make recommendations for general education in Harvard College as to venture into the vast field of American educational experience in quest of a concept of general education that would have validity for the free society which we cherish. This concept if found would be a true basis upon which to build such special contribution as education in Harvard College could make to American democracy.

The report we herewith submit to you should be read in the light of this, its main purpose. We hope it will provoke discussion and that it will lead to action. We would suggest that the recommendations for Harvard College have little meaning in themselves if divorced from the earlier chapters which deal with

background, theory, and philosophy. The report stands or falls as a unit.

We hope that our colleagues in reading through the report from beginning to end will share in the experience of mutual self-education which the committee itself underwent. Whatever else the report may be, it certainly is the result of joint effort. It is the product of twelve men living in close association for two years, grappling coöperatively with a complex and stubborn problem of major importance. The committee regularly met as a whole once a week, frequently more often, and periodically secluded itself for sessions of several days' duration. We maintained a central office into which memoranda poured and where daily groups smaller than the whole committee met informally to discuss our problems. We sought advice both from our colleagues in the university and from persons of various walks of life and sections of the country. We brought consultants to Cambridge as individuals and in groups. We operated through subcommittees and by conferences. All in all, we tapped so far as was in our power the rich and varied thinking and experience of American education. This procedure was made possible by a very generous grant from the President and Fellows of Harvard College for the expenses of the committee.

In emphasizing the joint nature of the report, we must also call attention to the unanimity of opinion reached by the committee. It should not go unmentioned that twelve men, whose *teaching and scholarly interests lie in some phase of special education*, could by this process of intimate collective study achieve so common an understanding of the basic philosophy and content of *general* education. The committee agreed on all matters of primary importance. In the application of general principle to practice the committee was able to resolve minor disagreement by compromise. On a few matters of minor detail there remained some unresolved difference of opinion.

Finally, we should like to remind you of the words you used to the Board of Overseers in your *Annual Report* of January 11, 1943, in describing your purpose in appointing the committee. You then wrote: "The primary concern of American education

today is not the development of the appreciation of the 'good life' in young gentlemen born to the purple. It is the infusion of the liberal and humane tradition into our entire educational system. Our purpose is to cultivate in the largest possible number of our future citizens an appreciation of both the responsibilities and the benefits which come to them because they are Americans and are free."

You will find this theme dominant in the report now submitted to you. Such a concept of general education is the imperative need of the American educational system. It alone can give cohesion to our efforts and guide the contribution of our youth to the nation's future.

Respectfully submitted,

PAUL H. BUCK, *Chairman*
JOHN H. FINLEY, JR., *Vice-Chairman*
RAPHAEL DEMOS
LEIGH HOADLEY
BYRON S. HOLLINSHEAD
WILBUR K. JORDAN
IVOR A. RICHARDS
PHILLIP J. RULON
ARTHUR M. SCHLESINGER
ROBERT ULICH
GEORGE WALD
BENJAMIN F. WRIGHT

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In preparing this report the committee consulted many colleagues. Some generously served on one of the following subcommittees: English and Literature, Mathematics and Science, Social Studies, and the Special Problems in the Higher Education of Women. Others met with the committee at its regular meetings.

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The following members of the Harvard faculty served as members of the committee at one period or another: John T. Dunlop, John M. Gaus, Howard M. Jones, Alfred D. Simpson, Howard E. Wilson. Sherwood R. Mercer was secretary to the committee during its first year.

The committee owes much to two successive secretaries: Shirley D. Hobson and Madelyn S. Brown, and to Elizabeth F. Hoxie, who helped prepare the manuscript for publication.

General Education in a Free Society

CHAPTER I

Education in the United States

I

The Problem

We need no Homer to praise us. Rather, we have opened the whole earth and sea to our enterprise and raised everywhere living memorials to our fortune.

Pericles, as reported by Thucydides

Youth is the time when the character is being molded and easily takes any impress one may wish to stamp on it. Shall we then simply allow our children to listen to any stories that anyone happens to make up and so receive into their minds ideas often the very opposite to those we shall think they ought to have when they are grown up?

Plato, *Republic*

THESE two statements from another democracy pose broadly the problem of this report. They are in essence contradictory. The first breathes the pride of a free society which, through the released energy of its citizens, had achieved a power, wealth, and height of material progress unknown until that time. The second concerns the effects of this creative freedom. It reflects a time when many shades of opinion, many forms of special knowledge, many standards of life and conduct, beat confusedly upon the young, and it asks how under those circumstances they might be expected to reach a settled outlook. The achievements proclaimed in the first statement thus set the question of the second. Taken together they reflect two characteristic facets of democracy: the one, its creativity, sprung from the self-trust of

its members; the other, its exposure to discord and even to fundamental divergence of standards precisely because of this creativity, the source of its strength.

General education, as education for an informed responsible life in our society, has chiefly to do with the second of these questions, the question of common standards and common purposes. Taken as a whole, education seeks to do two things: help young persons fulfill the unique, particular functions in life which it is in them to fulfill, and fit them so far as it can for those common spheres which, as citizens and heirs of a joint culture, they will share with others. Obviously these two ends are not wholly separable even in idea — much less can preparation for them be wholly separate. Who does not recall from school or college some small, seemingly quite minor subject which through a teacher or on reflection took on inclusive meaning? Yet to analyze is inevitably to separate what in fact clings together, and this report on general education will perforce deal mainly with preparation for life in the broad sense of completeness as a human being, rather than in the narrower sense of competence in a particular lot.

Illogically enough, such being its purpose, it fails to deal with the primary school and, still more illogically, with infancy — surely the times in life when education is nothing if not general. But as for infancy, it is doubtful whether a group of professors would show at their best on that subject, and as for the primary school, its relatively clear, definite function does not at least present the confusing choices which come up later. Apart from the size of primary classes and the indefensible practice of paying teachers less and less the younger the class that they teach, a practice related neither to the difficulty nor to the importance of their work, we have, moreover, the strong impression that primary education in the United States is more satisfactory than either secondary or higher education. In any case, what we have to say will, rightly or wrongly, be confined to the high school and college, though we shall turn briefly at the end to adult education and the more imponderable, if not less formative, realm of radio and movie. We can claim neither completeness

nor originality. The size of the subject precludes the former, and its character, at once ageless and contemporary, the latter. Much has lately been written on general education, and several colleges and universities have taken new steps toward carrying it out. What usefulness this report may have will therefore not be of a pioneering kind but because it shares a widespread and (as one thinks back over the history of education) surely an ancient concern.

Why has this concern become so strong in late years? Among many reasons three stand out: the staggering expansion of knowledge produced largely by specialism and certainly conducing to it; the concurrent and hardly less staggering growth of our educational system with its maze of stages, functions, and kinds of institutions; and not least, the ever-growing complexity of society itself. It is hard to say whether the effect of these changes has been chiefly to estrange future citizens from one another because of the very different backgrounds and forms of training from which they take up their different parts in life, or, because such masses of students have been involved, whether it has not been rather toward a stiff uniformity cramping the individual's best development. Certainly both forces have been at work. The question has therefore become more and more insistent: what then is the right relationship between specialistic training on the one hand, aiming at any one of a thousand different destinies, and education in a common heritage and toward a common citizenship on the other? It is not too much to say that the very character of our society will be affected by the answer to that question.

It is impossible to talk about general education except against this background of growth and change. We shall begin with what seem on the whole the clearer of these shaping forces, discussing here the growth of our educational system and the effects of society on it, and leaving to the next chapter the particularly vexed and murky question of the nature and organization of modern knowledge.

The unparalleled growth — one could almost say eruption — of our educational system, taking place as it has while our way of life was itself undergoing still vaster changes, is like a mathe-

matical problem in which new unknowns are being constantly introduced or like a house under construction for which the specifications are forever changing. To have embarked toward the ideal of free secondary education was surely to cut out work enough. But to have done so when life was always raising new demands, when the prospects facing young people were never stable, and when the very goals of education had therefore to be constantly revised, was to undertake more even than was bargained for. The wonder is not that our schools and colleges have in some ways failed; on the contrary, it is that they have succeeded as they have. Restated, then, the background of general education involves two far-reaching questions: first, what in practice has been implied in the attempt to achieve anything like universal free secondary education, and second, what have been the complicating cross-currents sweeping across schools and colleges from outer society? We shall say a few words, necessarily inadequate, of each.

2

Growth of the Schools

THE movement toward universal education, inaugurated in a few states before the middle of the last century by such prophetic figures as Horace Mann and Henry Barnard, had borne fruit by the end of the century when free public education had been established in every state and free secondary education in most. The momentum thereafter steadily mounted, particularly in the years following the last war. The period of schooling was advanced to sixteen, new buildings went up everywhere, the curriculum was enormously enlarged, and armies of teachers were recruited for the swelling ranks of pupils. As the slender-spired white wooden church symbolized an earlier period, so in countless towns across the continent the less aspiring but more tolerant and more embracing high-school building symbolized this era. The year 1870, just before the movement got strongly under

way, offers a good point of contrast. In the seventy years between then and 1940 the population slightly more than tripled. But in 1870 some 80,000 students were enrolled in secondary schools and 60,000 in colleges, whereas by 1940, 7,000,000 were enrolled in the former and 1,500,000 in the latter (while, in addition, more than 1,000,000 [1] were engaged in part-time, vocational, and adult education). Thus, while the general population was increasing three times over, the enrollment of high schools was being multiplied about ninety times and that of colleges about thirty times. And the end is not yet. Even now one young person in six fails to reach high school, and half of those who enter drop out before the end.[2]

But these figures, striking as they are, in some ways tell least of the change. It will have been noted that in 1870 three fourths of those who attended high school went on to college. The high school's function was therefore clear; it was quite simply to prepare for college. Its curriculum, membership, and general atmosphere were all dominated by that purpose. Those who went to high school were therefore a fairly homogeneous group, on the whole children of well-to-do families looking forward to the learned professions or to leadership in politics or trade. If included among them were doubtless a certain proportion of children of poorer families, still these cherished the same ambitions, probably all the more intensely. They were the proverbially ambitious poor boys, eager to rise in the world and no doubt destined in most cases to do so. No one was compelled to stay in high school, and if you could not stand the pace, you fell out. The result was that the curriculum, if narrow and rigid by modern standards, was compact, testing, and absolutely clear in its intention. The teachers, hardly more numerous as a class than college teachers, were themselves commonly college men, shar-

[1] About one third were in university-extension courses.

[2] The approximate figures are as follows:

in sixth grade, 90–95 per cent of the age group
in tenth grade, 60 per cent of the age group
in twelfth grade, 45 per cent of the age group
in second year of college, 15 per cent of the age group
in fourth year of college, 7 per cent of the age group

ing the outlooks and standards of their brethren in higher institutions and enjoying the same almost ministerial respect — and naturally so, since the earlier mysteries of composition and mathematics, Virgil and Xenophon, which were the staple of high school, differed only in degree from the higher mysteries of advanced mathematics, the more philosophic ancient authors, history, rhetoric, and Christian ethics, which were the fare of college.

But by another seventy years how great was the change from this decorous, self-contained system. The ninetyfold increase in numbers observed above, a convulsion as powerful as an earthquake, was of course the controlling fact. But had this increase, vast as it has been, meant simply a ninetyfold multiplication of the old plan and kind of schooling, it would have been comparatively minor. Far outshadowing in importance this mere numerical increase is the gradual change which it has brought about in the whole character of the high school and in its function toward American society.

This more significant, more inward change has followed quite simply from the fact that, instead of looking forward to college, three fourths of the students now look forward directly to work. Except for a small minority, the high school has therefore ceased to be a preparatory school in the old sense of the word. In so far as it is preparatory, it prepares not for college but for life. The consequences of this transformation for every phase of the high school are incalculable and by no means yet fully worked out. This mighty and far-reaching fact in itself gives rise to one of the main themes of this report — a theme to be set forth more fully at the end of the chapter and discussed at length thereafter: how, given this new character and role of the high school, can the interests of the three fourths who go on to active life be reconciled with the equally just interests of the one fourth who go on to further education? And, more important still, how can these two groups, despite their different interests, achieve from their education some common and binding understanding of the society which they will possess in common?

But instead of pursuing this question now, it is worth observing

somewhat more exactly what this new part is which the high school has been called on to play. It is, in essence, the incomparably difficult task of meeting, in ways which they severally respect and will respond to, masses of students of every conceivable shade of intelligence, background, means, interest, and expectation. Unlike the old high school in which no one was compelled to stay if he could not or did not wish to do the work, the modern high school must find place for every kind of student whatever his hopes and talents. It cannot justly fail to adapt itself, within reason, to any. No argument is being attempted here for what has been called, usually scornfully, at an earlier stage "the child-centered school." We are stating the simple fact that, in an industrial age, no alternative exists to the widespread employment of minors (or, much more likely, their widespread unemployment) except some concept of schooling which recognizes and meets the vast actual differences among students. Future generations will probably think that, much as has already been done, it is only a beginning. The tendency is always to strike a somewhat colorless mean, too fast for the slow, too slow for the fast. The ideal is a system which shall be as fair to the fast as to the slow, to the hand-minded as to the book-minded, but which, while meeting the separate needs of each, shall yet foster that fellow feeling between human being and human being which is the deepest root of democracy.

But already, it hardly need be said, these inescapable differences among students have brought about a huge increase in the number and kind of subjects taught in high school. That change, to be sure, has not taken place to anything like the same extent in small country high schools with few teachers and fewer facilities, which are still the majority, though they no longer have the majority of pupils. But even here the widespread movement toward consolidating small country schools in a central school to which pupils come from round about has made possible a very great enlargement of courses. It is therefore of some importance to see why such an enlargement is a great gain, but also what difficulties it raises.

The heart of the question is what is meant by difference of

intelligence. For it is obviously for this reason that some students are at home in the traditional subjects, while others flounder and fail. It has been estimated that algebra, for instance, is successfully taught to fourteen-year-olds of slightly superior gifts but that, as now taught at least, it is more or less meaningless to fully half of the age group. What does such a fact mean? The answer if it could be fully known would certainly be most complex, and no claim is made here to knowing it. But this much seems clear: that, however finally rooted in native endowment (the mere physical and nervous make-up of the brain), intelligence depends also on habit and outlook which in turn go back to earliest opportunity. A child brought up where books are read, interests are in the air, and promptings everywhere solicit his own small explorations will evidently stand a better chance of exhibiting intelligence, as our society judges it, than one who has felt no such promptings. But who can say that at birth the one child was more promising than the other? One approaches here a realm of causation doubly shaped by physical accident and the visible hand of the social order. The result is that what passes for intelligence is certainly in part the same thing as opportunity, by which is meant the whole complex of surroundings which help to shape a child's view of the world and of his place in it.

It was said that the high school is morally obliged to adapt itself to every kind of student. The view of intelligence just set forth is the ground of this duty. For assuming that a young person's abilities to some extent reflect his surroundings and both together color his hopes of life and expectations of himself, then a truly democratic education must perforce try to equalize opportunity by counteracting impediments. But it cannot do so simply by offering the conventional academic subjects to all students indiscriminately. These, again as now taught at least, are too alien to the backgrounds of most students to be anything like generally effective in breaking down the barriers of circumstance. Something closer to their experience is needed which, by meeting them halfway, will lead them out and beyond themselves. That is not the case, to be sure, with the very gifted. Their vivid minds, like powerful currents, overleap all breaks

between life and study, supplying by imagination what they have missed in experience. Much has been written, and rightly so, about the need of seeing to it that such students, whatever their means, find their path clear to the topmost reaches of education. We shall return to the subject later. Certainly few subjects touch more closely the spirit of democratic education. But democracy is not only opportunity for the able. It is equally betterment for the average, both the immediate betterment which can be gained in a single generation and the slower groundswell of betterment which works through generations. Hence the task of the high school is not merely to speed the bright boy to the top. It is at least as much (so far as numbers are concerned, far more) so to widen the horizons of ordinary students that they and, still more, their children will encounter fewer of the obstacles that cramp achievement.

To return then to the profusion of courses in the modern high school, its justification is by no means wholly practical: simply to fit young people for various kinds of jobs. The justification is quite as much one of method: to meet students on their own ground, to draw on their experience, to appeal to their hopes, and, by recognizing the influence of circumstance, to mitigate it. Manual training, business training, work in mechanics and agriculture, courses in health and home economics — these and a thousand more functional adaptations of the older disciplines, such as general mathematics instead of algebra and geometry, discussion courses instead of composition and literature, study of work and government in the United States instead of formal history — all reflect in part at least the search for the right means of influencing the great mass of students who, through bent or background or both, learn little from the conventional studies. This search will continue and will almost certainly produce a yet greater diversity. As was said, there is no solution simply in striking a dull average, satisfactory to neither the quick nor the slow. Too little has been done for the slow especially — those who in simpler times would have left school early and gained through work the kind of self-respect and upstandingness which they find hard to gain from books. The movement toward some

form of national or community service clearly owes some of its support to the feeling that the schools have failed with these young people. But be that as it may, the present diversity of instruction in the high school reflects dimly like a clouded mirror the diversity of our society itself, and it will not be adequate until it catches the image more exactly.

Put thus as the reflection of modern life, this growth of the curriculum raises again, but more clearly now, the main problem of this report, which has to do, not with the thousand influences dividing man from man, but with the necessary bonds and common ground between them. Democracy, however much by ensuring the right to differ it may foster difference – particularly in a technological age which further encourages division of function and hence difference of outlook – yet depends equally on the binding ties of common standards. It probably depends more heavily on these ties than does any other kind of society precisely because the divisive forces within it are so strong. But, from what has been said, it is clear that this task of implanting common ties is far from simple. The very disparity between students which has forced the high school to its expanded curriculum means that there is no single form of instruction that can reach all equally. Hence, even if it could be agreed what standards Americans have in common, the task of interpreting these to students of different ages, gifts, and interests must still be immense. Again, the fact that some students prolong their education far beyond high school, while the great majority do not, could become – to some extent has already become – a strongly dividing force. For to the degree that high schools try to prepare the majority for early entrance into active life by giving them all sorts of practical, immediately effective training, to that degree something like a chasm opens between them and the others whose education is longer. And in this chasm are the possibilities of misunderstanding and class distinction. But to see these difficulties is to grasp more firmly what must be the character of general education. It must be at once, as it were, horizontal, in the sense of uniting students of similar ages, and also perpendicular, in the sense of providing a strand that

will run through both high school and college, uniting different ages.

Finally, before leaving the growth of the high school, it is worth adding a few words on a subject closely related to the expansion of the curriculum, the course-unit system. It has this relation to the curriculum because it is the mechanism whereby courses of every kind are legitimatized, put on equal footing, and made available for tabulation. A unit represents a year's work in one subject, and for graduation a student offers sixteen such units (or fifteen when four years of English are mysteriously counted as three). But it is important to note that he may not haphazardly combine any courses to make up this total. On the contrary, his choice is strictly limited by the kind of diploma for which he is aiming. Large high schools commonly offer several different over-all courses: vocational, business, general, college-preparatory, and scientific. Of these the general course alone leaves the student comparatively free; the others all specify fairly exactly the range of subjects from which he shall choose. A few conclusions therefore follow about the course-unit system. It is in practice the instrument by which the great diversity of gifts and interests among students is matched by an equal diversity of instruction. Hence the profusion of courses, all equally counting as one unit, to which it has led. Then, it resembles the system of "concentrating" or "majoring" in a given subject which is in force in most colleges, in that it tends to increase rather than to mitigate these differences in students. For, being combined with a series of restrictions on choice of subjects, it in effect divides the high school into a number of lesser schools which, at least so far as the curriculum is concerned, are virtually sealed off from one another.

The course-unit system is thus in practice a divisive force in the high school. And because it encourages students to think of their studies as a series of blocks, each a unit complete in itself and separable from all others, it has a somewhat similar effect on the individual student also. That is, it divides his work into compartments, some of which may be related to others before or after, but many of which are simply islands of experience, connecting

with nothing, leading to nothing. It is noteworthy that European schools follow a quite different scheme. Students there take the same six or seven subjects concurrently through successive years, though with different emphasis and expense of time in any given year. The intention evidently is to keep all subjects steadily before the student as he matures, in the hope of giving his work both sequence and roundedness. In our system the heaping up of requirements for any one of the diplomas gives some such thread of sequence but without adequate roundedness and at the expense, as has been said, of dividing the high school into virtually autonomous groups.

Within limits, this dispersion and dividing of work both in the high school as a whole and in the case of any single student is no doubt desirable. The differences between students make it even to some extent inevitable. Seen in perspective, the course-unit system reflects more clearly than anything else simply the titanic growth of the high school. It has been a method of setting standards and defining functions, almost of setting up interchangeable parts. Tasks have had to be known in advance if teachers were to be trained for them; students have had to be provided with universally recognizable records. The whole vast machinery of the high school has necessarily veered toward standardization as the alternative to chaos.

Yet the system has its serious dangers. From what has been said these will appear chiefly two: the alienation of students from each other in mind and outlook because their courses of study for the various diplomas are so distinct, and the disjointedness of any given student's work because instead of being conceived as a whole it falls into scattered parts. The first of these two points has been made already. The root idea of general education is as a balance and counterpoise to the forces which divide group from group within the high school and the high school from the college. But in so far as general education is also conceived as an organic strand running through the successive years of high school and college, then it should play the same binding, unifying part for the individual as well. Certainly it will fail of its full function unless it does so.

3

The Impact of Social Change

SO much for the growth of the high school. But, as was said at the start, this growth, though revolutionary, has not alone guided its development or prescribed its characteristic form. The unceasing, ever-faster process of change that has gone on simultaneously in outer society, by creating new conditions the effects of which have flowed back over the high school like a flood, has been at least equally shaping. Though it is possible to do even less justice here to this huge subject, still an attempt must be made to suggest something of its importance.

The great underlying fact to which every phase of the question in some way goes back is the change of the United States, during the period which we have been considering, from a mainly agricultural to a mainly urban and industrial nation. The familiar statistics hardly need repeating in detail. From the turn of the century to 1940, the number of people living in communities of twenty-five hundred or more rose from about 40 to 56 per cent. Fostered by quick means of transportation, great metropolitan districts came into being, each embracing one or more central cities with satellite towns and farming lands, and these, some one hundred and forty in number, contain nearly half the population. Meanwhile, the wealth invested in industries increased many times over and their output at an even faster rate. Industrialization became increasingly a national phenomenon, with the South and Far West affected in only less degree than the older sections of the East and Middle West, and with the war tending to erase even these disparities. To an amazing degree people's environment has come to consist of machines and man-made things, much as the environment of animals is made up of natural objects and growing things. Even the farmer and his wife have mechanized their work, go to town in a car, and hear the voice of the city from the radio.

The educational effect of this mighty change has been equally great, though different, on city and on country. Of the two, the country has fared far the less well, and because education is a state and local responsibility, those states which are largely rural, less industrialized, and less wealthy have been at a very great disadvantage in comparison with their richer and more urban neighbors. Mississippi, for instance, is able to spend only a fifth as much per pupil as New York and to pay its teachers and principals an average annual salary of $559 against New York's $2604. Ten states annually spend less than $50 a pupil, whereas eight spend more than $100. The birth rate being higher in the country than in the city, the poorer states face the further disadvantage of having a relatively higher proportion of children to educate. South Carolina, for instance, has twice the proportion of children to adults as Los Angeles county; yet Los Angeles has five times the wealth available for education. Indeed, if South Carolina spent its entire state budget for education, it would still be spending less per pupil than do several states.

Such disparities have roused the current movement to obtain federal support for education. The question is troublesome. On the one side is the evident fact that in no sphere is local and state concern more natural or rightly stronger than in education. It is the sphere next removed from the family itself, touching parents and communities in their closest interests. Hence in no sphere is remote control less desirable. On the other side is the equally evident fact that the nation at large has no less concern for the condition of its young people. Americans move about more than any people on earth. Country children go to the city, young people brought up in one section move to another. The quality of education in one state therefore affects all other states. It follows that the federal government has an inescapable duty toward education, the more so because the income tax is increasingly draining from the states the funds by which education can be supported.

It has in fact recognized this duty, though spasmodically and for the most part in conjunction with other aims, as in the Civilian Conservation Corps, which was partly educational in function,

in the National Youth Administration, which was more fully so, and even as early as the Smith-Hughes Act of 1917 furthering vocational training. The war has brought other steps of the same ambiguous kind, in the use of schools and colleges for training and in educational provisions for veterans. Nothing is more to be wished than that the whole tangled subject be clarified and a solution found which shall do justice at once to the clear need for local and state control and yet to the equally clear obligation of the federal government toward those states which cannot now support anything like an adequate system of schooling. There is a further question whether the best interests of the nation, in both peace and war, would not be served by federal subvention of very able students.

The difference of educational opportunity as between country and city thus appears in part as a difference between state and state. But it appears also as a difference within any given state, and this whole question of the relative advantages of the country and the city child leads in turn to a basic and intensely interesting question concerning the larger role of the modern school. In simpler times, still partly perpetuated in small towns and in the country, schooling, far from being the whole of education, was only one among several influences at least as strong, probably stronger. First and strongest was the family, usually large, living together in a household where each member had tasks and all watched and learned the others' tasks. Then, there was the world of crops, animals, and wild nature, the green or snowy margin ever at the door, a standing lure to learning and doing. In addition were the relatively clear, settled standards of less changing times, those of the family first of all, but hardly less those of the community of small-town or country neighbors. And finally there was the more or less tight bond of the church. By temperament most city-bred moderns probably tend either to idealize or to disparage these conditions. Certainly it is hard to judge them accurately. Moreover, they differed enormously from place to place. It is a far cry indeed from the secure small towns described by Sarah Orne Jewett to the more cheerless of the Mississippi settlements visited by Huckleberry Finn. We are not

concerned here to judge these conditions but simply to point out that, for better or worse, the older school was – as the country school to some extent still is – strictly limited in function because other influences were so strong.

To conclude with the country school, its disadvantage as compared with the city school is therefore less great than might appear at first sight. For the latter's ever-widening scope – which now extends to health, athletics, extracurricular activities of all kinds, counseling, placement, and even in some cases to staying open all day and all year as a meeting ground and place of organized doings – is in part simply a compensation for the restrictions of city life. The country school, on the other hand, having to supply no such compensations, has less call to be so elaborate. Yet it is true that the country school has serious needs. As was noted, many country children eventually find their way to the city, where more complex conditions await them and they must compete for all kinds of jobs. Moreover, farming itself has become increasingly technical, both as a science and in the use of machines. When one reflects that the majority of American high schools are still small rural schools of five or six teachers and less than one hundred and thirty pupils, it is evident that enormous tasks are to be done. These are mostly tasks of consolidation and redistricting and to some extent of specializing. Consolidation of outlying schools in a central school makes possible a range of courses much more nearly equal to the actual differences among pupils than anything that a small school can offer. Specializing means the setting up in one district of a school strong in certain subjects and, in another district, of one strong in others. There are evident dangers and difficulties in such a scheme: dangers of overspecialization, difficulties of transportation or living away from home. But if the country child is to crown his many native advantages by a formal education in any way equal to that of his city cousin – which is to say, if his advantages are to be of the use to him and to the nation that they might be – then some such steps must be carried forward in all parts of the country as fully as they have been carried forward already in some. That possibility in turn leads back to the question of federal support.

The wave of change which has lifted and shaken every phase of American life has thus not failed to touch the country high school, in part simply negatively by leaving it stranded in old, now outmoded ways, in part positively by carrying it forward to new ways. But the city, with all its familiar complexities and contradictions, its unity yet discord, its efficiency yet waste, its opportunity yet frustration, is after all the characteristic feature of the times, and it is the city high school which puts most neatly the current problems of education. These spring in part from the weakening or loss of precisely those things which the country school can assume: the previously noted influences of family, household, chores, animals, countryside, community, church, which had always been taken for granted as the framework of education until they began to disappear. They reflect in part also the growth of entirely new influences, comparative freedom from work, readier access to books, ideas, and music, the indiscriminate presence of the movies, radio, and pulp magazines. Not least important, they reflect the economic and cultural schisms within the seeming unity of the city, schisms which are all the greater if one reckons as part of the city the industrial and residential areas around it. And with everything else they reflect the weight of sheer numbers.

There is of course no such thing as the typical city high school. But certain broad types can be distinguished. First there is the very large school of two thousand students or more,[8] situated in the crowded part of the city and drawing mostly from working-class families. The classes are big, averaging at least forty, and an air of regimentation and discipline prevails. Students march from class to class, and it is no accident that men teachers are in the halls between periods and that a patrolman loiters by the entrance. Equipment and objects of art are under lock and key. Teachers, all specialists in their subject, have five classes daily in addition to keeping the "home room." Their material is largely planned for them by the state and local authorities. In the press of faces they have difficulty in knowing or following any one student, a task left to a rarely adequate staff of professional counselors. There

[8] Over fifty high schools have five thousand or more students each.

are athletic teams, which, however, affect only comparatively few. The building is closed at a certain hour in the afternoon, after which, unless a student has a job, he has little to do except to idle at the street corner or play the juke box or finger magazines in a drugstore. Such a school offers many different kinds of vocational training, and the great majority are enrolled in one of these, having made their choice more or less at random at the age of fourteen or fifteen. Only a few, perhaps a tenth, go on to college. Like this school, though smaller, poorer, less ably taught, harsher in atmosphere, thinner in offering, and usually still more dominated by politics, are high schools in the very heart of industrial areas. Many of these are made up almost wholly of first- or second-generation Americans. Very few of their graduates go to college.

In sharp contrast to either of the foregoing is the high school in some comfortable suburb. Classes are smaller; teachers are better paid; the Parent-Teachers Association is eager and interested; there are many activities such as plays, athletics, and student publications; an atmosphere of concern for education pervades the school and the staff. A cleavage, to be sure, runs between the college-preparatory group and those who are taking vocational and business courses, and this cleavage reflects a difference of means and background. But lines are not sharply drawn; many able but less well-to-do pupils, responding to the favorable atmosphere and encouraged by interested teachers, take the college-preparatory course. The activities of the school are also a common bond. About half the graduates of this school go on either to college or to further education of some sort.

Two other schools somewhat resemble it: the private school and the central high school in prosperous small towns, particularly in the Middle West. These are the extremes, so to speak, of which the suburban high school is the mean. All three have in common a sense of solidarity and pride in the school, a more or less personal relationship between teachers and pupils, a fairly thoroughgoing internal democracy, however unrepresentative the private school may be of the whole community, and a vigorous set of activities surrounding the schoolwork as such. The two

extremes differ in that the private school draws from a much more restricted class and sends virtually all its graduates to college. The students are both more sheltered and more forced. The good small-town high school, on the other hand, is a cross-section of the town itself, and its strength is that of a community where everyone goes by his first name. In an academic sense it is perhaps less good than either the suburban high school or the private school, but it always sends a fair proportion of its graduates to college and contributes at least its full share, probably more than its share, of distinguished people.

These examples are doubtless neither typical nor complete. Most actual schools are probably a cross between two or more of the types just described, and we have omitted other types, for instance, parochial schools and various technical and trade schools. But even these examples will suffice to reinforce the point already made: namely, that as the roundedness and self-sufficiency of an earlier, partly rural way of life have disappeared, the school has necessarily taken on new functions. Or rather, the schools of well-to-do communities have taken on these functions. The comparative lack of them among precisely those parts of the population which have borne the brunt of industrialization is the point most worth noticing.

What are these functions? They are first of all those which follow from the inherent nature of the city as a place where people congregate for the convenience of work. That means that living quarters are small, there is little family life, fewer odd jobs (everything being manufactured), fewer chances for recreation (all the land being taken up). The school alone under these conditions is the place formally set aside for young people, and their life in consequence inevitably centers about it. Hence the rise of boarding schools and the multiplication of activities in all high schools where the means are sufficient. No other course is possible. Health, play, social life, avocations, help in the choice of a career: all devolve increasingly on the school and have in fact thus devolved in the case of the comparatively well-to-do, who least need such help. In the case of the others, the Y.M.C.A., settlement houses, the Boy Scouts, churches, public libraries, and

other independent agencies have done and continue to do important work. Such privately supported organizations are characteristic of democratic and especially of American life. Churches in particular do a kind of work which, by its nature, no publicly supported agency can attempt. Yet it is probable that even these influences have not been able to keep pace with the times. Over and above, then, the enlargement of the curriculum discussed earlier, the modern city high school faces – in part has already faced – a further and equally great extracurricular enlargement. It is not too much to expect that by another few decades most city schools, like a few at present, will be staffed and equipped to stay open all day the year round as places where the young can achieve that fullness of opportunity which the city otherwise denies.

But, as with the enlargement of the curriculum, there are problems and dangers in this extracurricular enlargement. These are in part simply another phase of the familiar modern problem of a planned society. How far can such paternalism go without sapping the final responsibility of the individual? But this question inevitably raises another: what responsibility can the individual be expected to assume unless he has known good influences? Whether you interpret democracy primarily as political democracy protecting the rights of the individual or as economic democracy protecting opportunity for the mass, there is a point where the two views meet: namely, that opportunity means nothing unless it is opportunity for good, which in turn depends on some experience of the good. Even Jefferson's competitive, selective ideal of democratic education rests on the assumption that at each stage the teacher and the school shall be the best possible, so that those who might otherwise be handicapped will have equal chance to get ahead. Thus when the modern city deprives many young people of the most basic concomitants to education, is it not the school's place to supply these so far as it can, even over and above the curriculum? There seems no doubt of the answer, and this wider view of the school's function will underlie much that is said about general education in later chapters.

This expansion raises other questions still, notably as to the

nature and function of teaching. We have said little hitherto about teaching, and what follows bears equally on what was said earlier about the growth of the curriculum. It has been fashionable for some time among college people to criticize public-school teaching and, still more bitterly, the teachers' colleges, schools of education, and normal schools which prepare for it. School people for their part have come to believe that colleges have no grasp of public education except as it concerns themselves and no interest in it except to criticize. This state of mutual acrimony is understandable, if not excusable, as another and particularly confusing result of the expansion of the public school. It seems clear in retrospect that when, about 1900, the need for literally armies of teachers became evident, liberal colleges and universities faced a decisive choice. Either they might train these teachers as they had those of earlier generations, in which case, however, very serious changes would have to be made in the conventional college curriculum; or else they might keep their traditional dedication to higher studies, in which case they would surrender the training of teachers to new and, in terms of knowledge and tradition, far less well-equipped institutions and themselves increasingly lose touch with the schools. The element of expense also entered in. The pay that most schoolteachers could expect and the means with which a great many started hardly justified four years even at a state university, much less at an endowed college. Many also could not have met the usual collegiate requirements. For these and other reasons, the second of the two choices just mentioned was in fact made by the colleges, no doubt in part unconsciously and out of inertia. Any other choice would have been hard, and there is something to be said in our complex age for a specialization whereby colleges and teachers' colleges each perform their unique function. But the consequences have been grave, not only the misunderstanding already noted but loss of any continuing interchange whereby each group might inform and influence the other. This report is, in some sense, only an attempt to bridge, so far as is possible at this date and by such means, this dividing canyon.

The reproach commonly expressed by college people is that,

as a result of their training, teachers are badly educated even in the subjects which they teach, much more so in other subjects. The reason given is that their training, brief in any case, is largely taken up with methods, psychology, and administration – with anything, in short, except the subject to be taught. And schools of education, it is said, sink deeper and deeper into these bad habits, making of teaching an elaborate and largely incomprehensible pseudo science instead of the essentially clear and straightforward task which it should be. Still worse, the criticism goes on, they have falsely persuaded the legislatures of most states to make these technical subjects a prerequisite to the teaching license – a clinching deterrent to entering upon teaching with a sound general background. The reply of experts on education and some teachers has, in effect, been already described. It is that the growth of our educational system has brought into the schools crowds of students so immensely varied in abilities and outlooks that the chief problem today is less to know the subject which you teach than to know what to teach and how to teach it. Education, in this view, is essentially a matter of social planning. Hence the emphasis on methods. In addition, there is the commonly suppressed assumption that, in view of the numbers of teachers necessary, they could not all be of the highest talent and accordingly the best that could be done would be to make up by knowledge of method what might be lacking in native endowment and general cultivation.

As usual, both sides have much to be said for them. It is of course true that in the end only the spark of knowledge and devotion to knowledge will kindle an answering flame in students. Hence everything finally depends on the teacher's quality of mind and spirit. But it is also true that criticism, though well founded, means little when it comes from those who have neither seriously considered nor themselves experienced the killing weight of numbers, the low pay, the political interference, the struggle against bad backgrounds and influences, the impersonality implicit in any big system, the demands on nervous energy and sheer physical strength, that characterize the life of the public-school teacher.

We return, therefore, to the earlier question: what are the conditions necessary for good teaching within the wider curriculum and wider concept of the school? The answer seems to fall into *three parts: higher pay for teaching, a more widespread dedication* to it, and a clearer recognition that, like the kingdom of heaven, it is a house of many mansions, each different, each honorable. The first two points are inseparable from each other. The people who should will not go into teaching unless it is more respected and more highly paid merely as teaching, not as superintending or administering, the jobs better paid at present. At the same time, it will be neither more respected nor better paid until more dedicated people go into it. Like the ministry and the armed services, teaching will presumably never be so lucrative as other callings. At least it never has been, except in the writings of philosophers. But there seems hope that the peculiar violence of expansion in commerce and industry which took able people from it during the last half-century will be less strong in the next. If so, its quieter rewards and more inward satisfactions will come to be more justly valued for what they are. Assuming that the growth of higher education will henceforth also be less violent there is further hope that colleges and universities will take up once more their ancient function of influencing students toward schoolteaching, a function which they have largely abrogated in past decades when every influence has been toward college teaching.

Meanwhile, an unceasing struggle must be fought to free education from a type of direct political control which seeks to impose appointments, restrain the legitimate freedom of teachers and even dictate what they should teach. No doubt the ultimate control of education must be political. But there is a serious question whether appointive school boards, membership on which is given after scrutiny and for a term of years to demonstrably qualified persons, are not more informed, more independent, and more responsible than most of the present elective boards. With this struggle against direct political control must come a similar struggle against excessive technical requirements for the teaching license. No doubt some such requirements are beneficial — say

six or eight hours in practice-teaching and educational psychology, instead of the sixteen or eighteen hours in these and other subjects now commonly asked. Surely the hope of a sound general education is in teachers who are themselves generally educated.

But, as was said, these hopes will not be fulfilled automatically, and the conditions of teaching will not improve until more and better-qualified people embark on it in a spirit of devotion. One of the tragedies of our time has been the change of teaching from a calling to something like an industry. The fault, as has been argued, is at once with the colleges, which have turned their backs; with the schools of education, which have taught everything except the indispensable thing, the love of knowledge; and with American society itself, which has tolerated the conditions under which many students and their teachers still labor. The remedy is a joint concern both of the public and of people who so believe in the importance of high-school teaching as the floor and foundation of democracy that they will go into it as a calling.

There is one further precondition to improvement: a clearer realization of the variety yet interdependence of tasks in the new high school. The variety of these tasks has been suggested already; it follows from the expansion of all extracurricular activities and of the curriculum itself. Their interdependence is hard to grasp clearly, harder still to make real in practice. Yet precisely in this interdependence lies the heart of education in a common tradition and for a common citizenship. The big modern high school resembles the modern university in being minutely subdivided. Up to a point it must be. Each subject requires its special training and fosters its particular outlook; the atmosphere of academic subjects differs from that of vocational subjects; the function of the teacher from the function of the counselor. Yet, from what has been said of the degree to which the high school is and must increasingly become the center of young people's lives in cities and even in towns, it follows that all its phases, being thus educational in the broader sense, must be bound together by common purposes if they are to exert a rounded, unifying influence.

The implications of this very important point for the cur-

riculum have been already broached, and we shall revert to them in later chapters. More will also be said on the place of extracurricular activities in fostering the aims of general education. Here we would return to the basic postulates of democracy for this large yet ideally interdependent school. Democracy was earlier taken to imply two in part contradictory commands: first, that of discovering and giving opportunity to the gifted student and, second, that of raising the level of the average student. One can call these two forces, in education no less than in politics, the Jeffersonian and the Jacksonian.[4] Our point here is that there is need for a more complete democracy in both these senses not only between student and student but between subject and subject and teacher and teacher. In saying this, we have in mind the powerful, widespread, and very unhappy distinction of atmosphere and general standing between academic and vocational courses. The latter tend to be simply the dumping ground for those who do not succeed in the former. There are obviously strong forces in American society making for this state of things. The wish to get ahead, parents' desires that their children shall have what they have lacked, the vague optimistic belief of many young people that they may go to college and hence might need the preparatory subjects, teachers' better preparation in these subjects, and their naturally greater interest in brighter pupils: all this and simple snobbishness tend to give luster to the academic course and a higher status to its teachers. For the same reason, the academic course tends to be crowded with students who do not belong in it, and hence is often diluted. But this is not our main point here; rather that it is a strange state of affairs in an industrial democracy when those very subjects are held in disrepute which are at the heart of the national economy and those students by implication condemned who will become its operators.

The question, to which no adequate answer has as yet been

[4] This terminology is certainly unfair to Jefferson's express interest in the citizen-farmer and artisan. But it does reflect the importance which, in *Notes on the State of Virginia*, he attached to selection of the ablest through education.

found, is, then, how to endue all subjects in the modern high school, and the teachers of these, with a respect commensurate to their equally necessary part in American life. Here Jeffersonian and Jacksonian principles collide head on, and subjects making for success create an atmosphere harmful to those making for simple usefulness. In this connection it is important to distinguish clearly between so-called technical courses and those in manual training. It is sometimes falsely assumed that students not gifted *in mind are gifted in hand.* That is not the case. Virtually as high an intelligence is demanded for success in a good technical high school as in a *good college-preparatory course.* These two, the academic and the technical courses, are the aristocracy of the high school, and in them the Jeffersonian *principle of selection* operates. However imperfect they may be, cause for major concern is not in them, but in the vocational and trade courses, regarded as inferior, made up of inferior students, and taught by inferior teachers. And this concern must be the greater because this distinction bears a relationship to American life as a whole. It has been estimated that about 10 per cent of the jobs in the United States are professional or managerial, that another 25 or 30 per cent demand some technical training (for instance, scientific farming, any one of the skilled trades, office work), but that for the great remaining mass of more than half the jobs no previous training is necessary. *It* is of future holders of these that we are thinking now. Colleges and professional schools on the whole prepare for the first kind of jobs; junior colleges, technical high schools, and trade schools prepare for the second kind; responsibility for the third kind is on the grammar schools and high schools alone. Moreover, this is a responsibility for a strictly general, not a technical, education since, as said, education of the latter kind is not necessary for these jobs. This important point was touched on earlier when we said that the huge expansion of the curriculum was not chiefly intended to fit students for specific jobs but rather to reach all students in ways which they severally might respect and profit from. For these students their whole high-school education is in the truest sense general education.

Thus we return to the imperative need that all the courses, indeed all the wider activities, of the high school be thought of as interdependent and equally honorable. For it is in all these courses and activities alike that the civilizing work of preparing for American life takes place. There is always a strong tendency, which this report will not have escaped, to think of general education merely as a series of specific courses, highly literate in character and thereby perforce appealing to the bookish. Such courses have their important place, but, considering the population as a whole, they again illustrate the selective Jeffersonian principle. They are for those students who can and will go ahead. But had the high school consisted only of such students, there would have been no need in the first place greatly to expand the curriculum. The unsolved problem, the Jacksonian task, of the high school is to reach students who do not read well yet are not skilled in hand, whose backgrounds are bad, who in cities especially are a prey to a thousand mercenary interests – the kind of young people who, as said, in other times would have left school early and found self-respect in work but who now, if they leave school, are simply unemployed. For them particularly, though for all to some extent, the whole range of the school must be general education – sports, activities, provisions for health, opportunities for avocation and part-time work, quite as much as courses. And a great untried realm of community and national work, foreshadowed in the C.C.C. and in the instructional programs of this war, is yet to be formulated. These are the young people for whom experience of this kind has meant higher standards, improved health, greater self-respect, and a wider experience of life. Other nations have met the same problem by regimenting the young even in peace. But such regimenting cannot safely be our solution. That solution is rather in a vision of the scope of the high school and of the equal dignity and importance of teaching in the Jacksonian and the Jeffersonian senses – that is to say, of teaching not by books and information alone, which are necessarily for the brighter, but by work, guidance, and atmosphere.

Finally, there is outside the school, in the movies and radio, in

adult education and the life of the community, a realm still more powerful for good or ill. We shall return to this subject also, in the last chapter. Here we merely add that the same conflicting forces that operate in the school system operate in this realm likewise. The conflict is in part between the forces making for unity and those making for division. Like the high-school curriculum, the movies and radio, not to speak of magazines and newspapers, have adapted themselves to the enormous range of taste and intelligence which exists in the general public, catering quite consciously, often quite cynically, to one or another level. This variety is necessary and within limits good. But, as in the case of the high school, it carries with it the possibility of division between class and class because tastes will have been so differently formed. It also carries the possibility of personal frustration, when people struggle against influences which they scarcely know how to escape. Doubtless wisdom has always been the fruit of the tree of good and evil. But one need be no soft paternalist to believe that never in the history of the world have vulgarity and debilitation beat so insistently on the mind as they now do from screen, radio, and newsstand. Against these the book or movie which speaks with authentic largeness to the whole people has no easy victory.

Again, the conflict is in part between the same Jeffersonianism and Jacksonianism of which we have spoken. Or perhaps these are not the right terms in this context. We mean the conflict between the right of any person to create and do for his own profit and the right of the public to what will be to its profit. It is said that the public is often ahead of legislators. Certainly it is often ahead of what is given it for entertainment. It is no reply to say that entertainment is not education. The greatest periods of the world's art and literature have been those of expanding horizons when ordinary men found in the arts the model and revelation of their humanity. Precisely because they wear the warmth and color of the senses, the arts are probably the strongest and deepest of all educative forces. The spread of music in our times carries untold good, but the movies have rarely equaled this side of the radio's accomplishment. And however many op-

portunities museums and libraries offer, these, like the advanced course or special teacher in school, are on the whole Jeffersonian, appealing to the naturally elect. Yet it seems clear that general education, as making for an enfranchisement of spirit among all Americans, will fail in the schools unless it extends to the community.

4

Jeffersonianism and Jacksonianism

WE pause now to draw together and generalize the points so far made, because, together with what will be said in the next chapter on the organization of knowledge, they will be recurrent themes in all that follows. This and the next chapter largely state questions; the four later chapters look to solutions. Or perhaps solution is too strong a word. Education, like all society's prime needs, changes as society changes. Yet, since the general character of a culture changes more slowly and human nature more slowly still, if at all, there exist also relatively constant elements in education. The most that one can do is therefore, like Long John Silver looking for treasure, to triangulate the major features of the more and the less changing. *But to do so is not to find* guaranteed solutions: it is only to look in the direction in which they lie.

It was said at the start that the high school's chief problem followed at once from its own explosive growth and from the not less explosive changes taking place outside it. These two categories are not exact; certainly they are not mutually exclusive, and facets of the same historical and social movements appear under both. Yet the consequences for the school system when the attempt was made to realize the ideal of universal free education were in fact immeasurably heightened by the setting of ever-increased urbanization and industrialization in which the attempt was carried out. If related, then, these, as it were, inner and outer movements *are distinct in themselves and have raised distinct* problems.

The first and inner movement – the sheer numerical growth of the high school at something like thirty times the rate of the country at large – meant that there came into it a number and variety of students far greater than any system had ever before tried to cope with. There were few or no guideposts, and when the traditional academic subjects proved unsuitable for vast numbers of students, the curriculum was widened to include a thousand watered-down versions of these as well as a thousand new vocational and practical subjects. The result was, and is, a parceling, an atomization of the curriculum which, if it reflects the actual variations among students, tends if anything to enhance them by dividing man from man in their basic preparations for life. This tendency has been the stronger because the mechanism whereby the stretching of the curriculum was carried out – the course-unit system – likewise emphasized separateness: both a separateness of subject from subject within the high school as a whole, with the resulting presumption that any combination of subjects makes an equally good education; and a separateness of course from course in any student's program, with the resulting danger that it lack roundedness and cohesion. The two sides of the problem thus stand forth clearly: on the one, a need for diversity, even a greater diversity than exists at present in the still largely bookish curriculum, since nothing else will match the actual range of intelligence and background among students; and on the other, a need for some principle of unity, since without it the curriculum flies into pieces and even the studies of any one student are atomic or unbalanced or both.

Jointly these opposite needs evidently point to one solution: a scheme of relationship between subjects which shall be similar for all students yet capable of being differently carried out for different students. Within it there must be place for both special and general education: for those subjects which divide man from man according to their particular functions and for those which unite man and man in their common humanity and citizenship. This scheme, further, should provide a continuing bond of training and outlook not only between all members of the high school but also between the great majority who stop at high school and

the minority who go on to college, such that their education should not differ in kind but only in degree. It is this scheme, like our society itself, simple in larger outline yet infinitely varied and complex in detail, which it is the main burden of the following chapters to expound.

The second and outer movement — the vast social transformation which attended the lesser, though still great, transformation of the school system — brought sharply forward the question, what is the school's peculiar function in the entirety of a young person's education? It is often despairingly said that the modern school, being expected, like Atlas, to carry the world, is thereby prevented from carrying on its own true work. The question arises out of the inherent specialism of modern and particularly of city life, which leaves few leisurely reaches where young people learn unconsciously from nature and by watching older people. Nature has retreated, and work is for the most part done away from their gaze (with exceptions, notably the mechanic in a small garage, admirable teacher). Hence this extension of the school's activity has come about less in the country than in the city — which is not to say that country schools, for the most part poor and small, do not have their own serious needs, in turn involving the question of federal support. But in the city, well-to-do communities have in fact shown their belief that the school must find and furnish substitutes for what modern life takes away — athletics to replace work and the mere physical struggle for survival, avocations and handicrafts to replace chores and the skill of doing, even a small community in the school to replace the security of church and village. There is no good in complaining that the school is Atlas. People will not let it cease to be such until more generally benign influences surround the young — influences which, in Plato's charming words, "like a wind breathing health from sound regions, insensibly from earliest childhood lead them to likeness and sympathy with the life of reason." The question, rather, is how the school can furnish such influences to the poor as well as to the well-to-do.

There are unquestionable risks in such an extension of scope, the elephantine growth of athletics, for instance, or, in colleges,

the strange flourishing of fraternities. You cannot, it is clear, gather together masses of young people and expect them all to behave like young Aristotles. Young people have always brought with them to school the unsettlements and vapors of adolescence, and now when nearly all go to high school the scope of these unsettlements is multiplied geometrically. It is one thing to have a relatively few students of superior gifts and stable backgrounds; it is another to have the present Babel of gifts and backgrounds. Granting, then, that it is at best not easy for the young to see their way through the mists of feeling, it follows that the school cannot hope to accomplish its proper tasks without allowing for and somehow harnessing these feelings. Hence the only way of escaping the excesses of athletics, cliques, and general anti-intellectualism — these gropings, pathetic or harmful, for outlets which neither the community nor the school otherwise provides — is to recognize what the school legitimately should provide. This recognition in turn brings one face to face with teaching in all its varied phases.

It was argued earlier that the low pay of teaching could not be considered as something apart from the caliber and devotion of those who go into it, and that the one would rise only with the other. If the sufferings of our time have shown anything, they have shown that human beings are not led by economic motives alone but equally by visions, however distorted, of causes to be served. The failures of teaching are not therefore ascribable only to the pay, however cryingly it demands improvement, but to the failure of colleges, teachers' colleges, and the country as a whole to make of teaching the high calling that it must be. But, it was further argued, improvement will also depend on a sound and thoroughgoing democracy in the schools. We understand by democracy the interworking of two complementary forces, the Jeffersonian and the Jacksonian, the one valuing opportunity as the nurse of excellence, the other as the guard of equity. If, therefore, equal opportunity no longer lies in the curriculum alone but also in the wider functions which have been cast on the school by the conditions of modern life, the commands of democracy extend to these as well. All are teachers, and all equally

necessary, who give to young people through the curriculum or beyond it the opportunity which makes for completeness of life, and improvement in teaching will depend on this wider vision of who the teacher is.

Are Jeffersonianism and Jacksonianism in fact complementary or do they struggle against each other? Much of our future will be written in the answer to this question. The terms are of course vague and relative. Thus we have criticized the school system as too Jeffersonian, because it gives quite different honor to academic and technical subjects from which students go on to relatively assured futures, from any that it gives to subjects pursued by humbler students. The standard of our education is a strongly middle-class standard, which must disappoint and may embitter those (perhaps half of all the students in the high school) who find themselves cast for another role. Their good is still almost wholly to be discovered. On the other hand, it can equally be said that the high school is Jacksonian, in that it largely fails to find and force the able young person. And the same, as has been noted, applies to outer influences, radio and moving picture, which aim, often calculatingly, at the mass. It has been gloomily said that no man and no society can do two things well at the same time. Certainly the human tendency is so to see one goal as to forget the other, and writers on education have not uncommonly erred with this fault, setting either a standard of culture which coolly neglects the great mass or indulging in a flat and colorless egalitarianism. But the belief that one good is purchasable always and only at the expense of another ultimately goes back to a belief in the natural right of the stronger; it runs counter both to religious faith and to the best experience of civilization. The hope of the American school system, indeed of our society, is precisely that it can pursue two goals simultaneously: give scope to ability and raise the average. Nor are these two goals so far apart, if human beings are capable of common sympathies.

5

The Search for Unity

WE have said nothing hitherto and shall say little now about the college, intentionally. However much higher and secondary education may have in common, they differ in one decisive respect: their relationship to what can be called the body of modern knowledge. Secondary education of course reflects this body of knowledge. What students learn in high school now is something very different from what their parents learned. But the school's task is, after all, largely timeless. You have to acquire the outlooks and methods necessary for any knowledge before you go on to fine distinctions between today and yesterday. The school is a civilizing place in the fundamental sense of giving young people the tools on which any civilization depends. The college, on the other hand, stands in direct, almost mirrorlike relationship to the state of knowledge, responding to its movements, changing as it changes. That is not to say that the college does not have its own civilizing tasks to perform; it has. Yet these, if one can estimate such a thing, are secondary rather than primary. Or at least they are so intertwined with the tasks of learning and understanding as to be inseparable from them. Hence, before saying anything profitable about colleges, it is necessary to take the dizzy plunge into a consideration of reality as seen by the modern mind; which is to say, into the view of man and the world which emerges from modern knowledge and which it is the business of colleges to convey. This plunge we shall attempt in the next chapter. As was said at the start, the whole question of general education has arisen not only out of the expansion of the educational system and the changes of society but out of the accompanying headlong growth of knowledge also.

Yet, needless to say, the college has been far from unaffected by the former two movements which we have traced in the

schools. A thirtyfold growth from 1870 to 1940, though less than a ninetyfold, is still great, and it has brought much the same impulse toward variation. So much so that the word, college, though still probably meaning to most people the four-year liberal college, means many other types of institutions too. It means the agricultural college, the business college, the engineering college, the teachers' college. At the University of Chicago it means the usual last two years of high school and the first two of college, and at junior colleges it means the latter two years only. Even within the six hundred and ninety or so liberal colleges throughout the country the span of standards and offering is very wide, and a further difference has tended to grow up between university colleges (that is, those associated with universities and more or less influenced by the resulting atmosphere of specialism) and colleges existing by themselves. Add the growth of city colleges, usually publicly supported, not to speak of the hive of institutions comprising a state university, and in spite of all the selective forces which come into play at the end of high school, there results a variety hardly less than that of the school system. Thus all that was said about the need, in the latter, for the binding, integrative working of general education to check and counterbalance its inevitable divisiveness applies to colleges as well. Not less applicable to colleges is what was said about the impossibility of finding one single method and substance of general education, even though its higher aims be agreed on. Surely there is no simple prescription, no one panacea equally effective for all colleges, but within broad limits each must work out its way for itself. These limits are set by the spirit and intention of general education as training in what unites, rather than in what divides, modern man — which in turn leads to the next chapter.

Again, this growth has divided any given college against itself, the more so the bigger and more characteristically modern it is. Two distinct and far-reaching steps have given the present college its form. The first, the so-called free elective system introduced by the authoritative figure of President Eliot in the seventies and eighties, opened finally to American students the floods of specialized knowledge then streaming from European univer-

sities but offered before then only to Americans who studied abroad. This, the first long step away from the restricted curriculum of earlier times, was entirely necessary, even inevitable. But the exuberance of freedom to which it led raised difficulties. If students could study anything that they chose within the now very greatly expanded curriculum, what assurance was there of coherence and intellectual discipline in their work? This discipline might exist, but there might be simply a careless, indiscriminate tasting. Moved by such considerations, faculties as time went on increasingly hedged the student's freedom by requiring him to take a proportion of his work, varying in different colleges, in more or less closely related subjects. He was, to be sure, likewise required to take work outside these subjects, but as the scope and importance of the main field grew, these other requirements became more and more incidental. This, the so-called system of "concentrating" or "majoring," represents the second step. It is the system now in force in the great majority of American colleges.

As was said, the main argument leading to its adoption was that of intellectual discipline. If liberal education, so the argument ran, could no longer mean knowledge of a common subject matter, it could at least mean experience of a common method. But this argument has in recent times been subjected to increasing criticism. Not only is it very doubtful whether the intellectual discipline involved in all subjects, in chemistry, for instance, and in literature, is identical or even very similar, but students' motives in choosing and following any given subject have very commonly proved to have little or nothing to do with intellectual discipline. Rather, as modern life has come increasingly to rest on specialized knowledge, the various fields of college study have in consequence appeared simply as preparation for one or another position in life. They have become, in short, for many, though by no means for all, a kind of higher vocational training. We do not here intend to defend or attack this vocationalism. It has, as said, an obvious connection with modern life; it has perhaps an equal connection with a state of democracy in which the hereditary moneyed class is less strong and almost all young people have to

prepare themselves to make a living. But of this more later. Our sole point here is that the rise of this partly, though not wholly, vocational specialism has tended to take from the college what theoretical unity it had. It is for this reason that the college was said above to be divided against itself. Certainly, if the various fields of study do not represent a common discipline or give anything like a common view of life, then such unity as the college has must come chiefly from imponderable tradition or simple gregariousness.

This, then, or something like this, is the present state: an enormous variety of aim and method among colleges as a whole and much the same variety on a smaller scale within any one college. This condition, which seemingly robs liberal education of any clear, coherent meaning, has for some time disturbed people and prompted a variety of solutions. Sectarian, particularly Roman Catholic, colleges have of course their solution, which was generally shared by American colleges until less than a century ago: namely, the conviction that Christianity gives meaning and ultimate unity to all parts of the curriculum, indeed to the whole life of the college. Yet this solution is out of the question in publicly supported colleges and is practically, if not legally, impossible in most others. Some think it the Achilles' heel of democracy that, by its very nature, it cannot foster general agreement on ultimates, and perhaps must foster the contrary. But whatever one's views, religion is not now for most colleges a practicable source of intellectual unity.

A second solution has been sought in the tradition of Western culture as embodied in the great writings of the European and American past. There seems much that is fertile in this view and we shall revert to it. But at first glance it appears to collide with two difficulties: first, the great disparity of taste and ability which exists even among college students (not to speak of high-school students, to whom, as repeatedly said, any truly valid scheme of unity must also extend) and, perhaps more important, a doubt whether the spirit of innovation and change expressing itself in a thousand modern forms is not itself as fundamental a part of Western culture as the spirit of tradition.

A third solution recognizes precisely this spirit of change. It centers on contemporary life, and, casting off the formal divisions of knowledge, tries to organize knowledge around actual problems and questions which young people may be expected to meet in mature life – health, vocation, family, social issues, private standards, and the like. The difficulty here is a somewhat naive dismissal of the fact that a great many people have contributed over a very long time to human knowledge, which in consequence has a dignity, almost an austerity, calling for some respect. Moreover, since conditions change, what assurance is there that the problems which students study will resemble those that they will meet? In general, relevance to the present seems more valid as a point of view expressing a teacher's outlook and emphasizing the inevitable bearing of knowledge on life than it is as a unifying principle.

Finally, the pragmatist solution sees in science and the scientific outlook this saving unity, urging that what is common to modern knowledge is not so much any over-all scheme as a habit of meeting problems in a detached, experimental, observing spirit. Yet, if not the philosophers of pragmatism, at least their disciples seem in practice, if one may put it so, not pragmatic enough. That is, there is always a tendency in this type of thought to omit as irrelevant the whole realm of belief and commitment by which, to all appearances, much of human activity seems in fact swayed. And if pragmatism be extended to include this realm of value, then it runs the danger of losing its scientific character. The question at bottom is whether the scientific attitude is in truth applicable to the full horizon of life, and on this question there is, to say the least, uncertainty.

Thus the search continues and must continue for some over-all logic, some strong, not easily broken frame within which both college and school may fulfill their at once diversifying and uniting tasks. This logic must be wide enough to embrace the actual richness and variegation of modern life – a richness partly, if not wholly, reflected in the complexity of our present educational system. It must also be strong enough to give goal and direction to this system – something much less clear at present.

It is evidently to be looked for in the character of American society, a society not wholly of the new world since it came from the old, not wholly given to innovation since it acknowledges certain fixed beliefs, not even wholly a law unto itself since there are principles above the state. This logic must further embody certain intangibles of the American spirit, in particular, perhaps, the ideal of coöperation on the level of action irrespective of agreement on ultimates – which is to say, belief in the worth and meaning of the human spirit, however one may understand it. Such a belief rests on that hard but very great thing, tolerance not from absence of standards but through possession of them.

CHAPTER II

Theory of General Education

I

Heritage and Change

WE have tried so far to sketch in broad outline the growth of American education and to indicate the factors which have determined this growth. The very momentum of its development, like that which has marked American life generally, left a legacy of disturbance and maladjustment undreamed of in simpler times. A passage from Machiavelli's *Discourses* comes to mind in which, after asking why the Roman Republic showed signs of confusion in the period of its fastest growth, he observes that such confusion was inevitable in so vigorous a state. "Had the Roman Commonwealth," he concludes, "grown to be more tranquil, this inconvenience would have resulted that it must at the same time have grown weaker, since the road would have been closed to that greatness to which it came. For in removing the causes of her tumults, Rome must have interfered with the causes of her growth." Just so in the United States, the most ideally planned educational system would have found itself in conflict with the unforeseen forces set loose by the growth and development of the country. But this very growth, the source of the gravest problems to education, is at the same time the index of its strength and promise.

In order to pass judgment on the actualities of education and to make reasonable proposals for revising the present system, it is necessary to have an insight, however tentative, into the ideal aims of education in our society. The present chapter will accordingly consider what can, perhaps overformally, be called a

philosophy of American education, and especially that part of it which is general education.

It was remarked at the end of the previous chapter that a supreme need of American education is for a unifying purpose and idea. As recently as a century ago, no doubt existed about such a purpose: it was to train the Christian citizen. Nor was there doubt how this training was to be accomplished. The student's logical powers were to be formed by mathematics, his taste by the Greek and Latin classics, his speech by rhetoric, and his ideals by Christian ethics. College catalogues commonly began with a specific statement about the influence of such a training on the mind and character. The reasons why this enviable certainty both of goal and of means has largely disappeared have already been set forth. For some decades the mere excitement of enlarging the curriculum and making place for new subjects, new methods, and masses of new students seems quite pardonably to have absorbed the energies of schools and colleges. It is fashionable now to criticize the leading figures of that expansive time for failing to replace, or even to see the need of replacing, the unity which they destroyed. But such criticisms, if just in themselves, are hardly just historically. A great and necessary task of modernizing and broadening education waited to be done, and there is credit enough in its accomplishment. In recent times, however, the question of unity has become insistent. We are faced with a diversity of education which, if it has many virtues, nevertheless works against the good of society by helping to destroy the common ground of training and outlook on which any society depends.

It seems that a common ground between some, though not all, of the ideas underlying our educational practice is the sense of heritage. The word heritage is not here taken to mean mere retrospection. The purpose of all education is to help students live their own lives. The appeal to heritage is partly to the authority, partly to the clarification of the past about what is important in the present. All Catholic and many Protestant institutions thus appeal to the Christian view of man and history as providing both final meaning and immediate standards for life.

As observed at the outset, it is less than a century since such was the common practice of American education generally, and certainly this impulse to mold students to a pattern sanctioned by the past can, in one form or another, never be absent from education. If it were, society would become discontinuous.

In this concern for heritage lies a close similarity between religious education and education in the great classic books. Exponents of the latter have, to be sure, described it as primarily a process of intellectual discipline in the joint arts of word and number, the so-called *trivium* (grammar, logic, rhetoric) and *quadrivium* (arithmetic, geometry, astronomy, music). But, since the very idea of this discipline goes back to antiquity and since the actual books by which it is carried out are in fact the great books of the Western tradition, it seems fairer, without denying the disciplinary value of such a curriculum, to think of it as primarily a process of opening before students the intellectual forces that have shaped the Western mind. There is a sense in which education in the great books can be looked at as a secular continuation of the spirit of Protestantism. As early Protestantism, rejecting the authority and philosophy of the medieval church, placed reliance on each man's personal reading of the Scriptures, so this present movement, rejecting the unique authority of the Scriptures, places reliance on the reading of those books which are taken to represent the fullest revelation of the Western mind. But be this as it may, it is certain that, like religious education, education in the great books is essentially an introduction of students to their heritage.

Nor is the sense of heritage less important, though it may be less obvious, a part of education for modern democratic life. To the degree that the implications of democracy are drawn forth and expounded, to that degree the long-standing impulse of education toward shaping students to a received ideal is still pursued. Consider the teaching of American history and of modern democratic life. However ostensibly factual such teaching may be, it commonly carries with it a presupposition which is not subject to scientific proof: namely, the presupposition that democracy is meaningful and right. Moreover, since contem-

porary life is itself a product of history, to study it is to tread unconsciously, in the words of the hymn, where the saints have trod. To know modern democracy is to know something at least of Jefferson, though you have not read him; to learn to respect freedom of speech or the rights of the private conscience is not to be wholly ignorant of the *Areopagitica* or the *Antigone*, though you know nothing about them. Whether, as philosophers of history argue, being conditioned by the present we inevitably judge the past by what we know in the present (since otherwise the past would be unintelligible) or whether human motives and choices do not in reality greatly change with time, the fact remains that the past and the present are parts of the same unrolling scene and, whether you enter early or late, you see for the most part the still-unfinished progress of the same issues.

Here, then, in so far as our culture is adequately reflected in current ideas on education, one point about it is clear: it depends in part on an inherited view of man and society which it is the function, though not the only function, of education to pass on. It is not and cannot be true that all possible choices are open to us individually or collectively. We are part of an organic process, which is the American and, more broadly, the Western evolution. Our standards of judgment, ways of life, and form of government all bear the marks of this evolution, which would accordingly influence us, though confusedly, even if it were not understood. Ideally it should be understood at several degrees of depth which complement rather than exclude each other. To study the American present is to discern at best the aims and purposes of a free society animating its imperfections. To study the past is immensely to enrich the meaning of the present and at the same time to clarify it by the simplification of the writings and the issues which have been winnowed from history. To study either past or present is to confront, in some form or another, the philosophic and religious fact of man in history and to recognize the huge continuing influence alike on past and present of the stream of Jewish and Greek thought in Christianity. There is doubtless a sense in which religious education, education in the great books, and education in modern democracy may be mutu-

ally exclusive. But there is a far more important sense in which they work together to the same end, which is belief in the idea of man and society that we inherit, adapt, and pass on.

This idea is described in many ways, perhaps most commonly in recent times, as that of the dignity of man. To the belief in man's dignity must be added the recognition of his duty to his fellow men. Dignity does not rest on any man as a being separate from all other beings, which he in any case cannot be, but springs from his common humanity and exists positively as he makes the common good his own. This concept is essentially that of the Western tradition: the view of man as free and not as slave, an end in himself and not a means. It may have what many believe to be the limitations of humanism, which are those of pride and arise from making man the measure of all things. But it need not have these limitations, since it is equally compatible with a religious view of life. Thus it is similar to the position described at the end of the last chapter as coöperation without uniformity, agreement on the good of man at the level of performance without the necessity of agreement on ultimates. But two points have now been added. First, thus stated, the goal of education is not in conflict with but largely includes the goals of religious education, education in the Western tradition, and education in modern democracy. For these in turn have been seen to involve necessary elements in our common tradition, each to a great extent implied in the others as levels at which it can be understood. Certainly no fruitful way of stating the belief in the dignity and mutual obligation of man can present it as other than, at one and the same time, effective in the present, emerging from the past, and partaking of the nature not of fact but of faith. Second, it has become clear that the common ground between these various views — namely, the impulse to rear students to a received idea of the good — is in fact necessary to education. It is impossible to escape the realization that our society, like any society, rests on common beliefs and that a major task of education is to perpetuate them.

This conclusion raises one of the most fundamental problems of education, indeed of society itself: how to reconcile this neces-

sity for common belief with the equally obvious necessity for new and independent insights leading to change. We approach here the one previously mentioned concept of education which was not included under the idea of heritage: namely, the views associated with the names of James and Dewey and having to do with science, the scientific attitude, and pragmatism. This is hardly the place to try to summarize this body of thought or even to set forth in detail its application by Mr. Dewey to education. To do so would be virtually to retrace the educational controversies of the last forty years. But, at the risk of some injustice to Mr. Dewey's thought as a whole, a few points can be made about it. It puts trust in the scientific method of thought, the method which demands that you reach conclusions from tested data only, but that, since the data may be enlarged or the conclusions themselves combined with still other conclusions, you must hold them only tentatively. It emphasizes that full truth is not known and that we must be forever led by facts to revise our approximations of it. As a feeling of commitment and of allegiance marks the sense of heritage, so a tone of tough-mindedness and curiosity and a readiness for change mark this pragmatic attitude.

Here, then, is a concept of education, founded on obedience to fact and well disposed, even hospitable, to change, which appears at first sight the antithesis of any view based on the importance of heritage. Such hostility to tradition well reflects one side of the modern mind. It is impossible to contemplate the changes even of the last decades, much less the major groundswell of change since the Renaissance, without feeling that we face largely new conditions which call for new qualities of mind and outlook. Moreover, it is obviously no accident that this pragmatic philosophy has been worked out most fully in the United States. Yet, in spite of its seeming conflict with views of education based on heritage, strong doubt exists whether the questioning, innovating, experimental attitude of pragmatism is in fact something alien to the Western heritage or whether it is not, in the broadest sense of the word, a part of it.

The rest of the present volume would hardly suffice for this

sweeping subject. But it can be observed even here that we look back on antiquity not simply out of curiosity but because ancient thought is sympathetic to us. The Greek idea of an orderly universe, of political freedom under rationally constructed laws, and of the inner life itself as subject to the sway of reason, was certainly not achieved without skepticism, observation, or the test of experience. The ancient atomists and medical writers and, to a large extent, Socrates himself relied precisely on induction from observed facts. Socrates, the teacher and the gadfly of the Athenian city, impressed on his pupils and the public at large the duty of man to reflect on his beliefs and to criticize his presuppositions. Socrates was an individualist proclaiming that man should form his opinions by his own reasoning and not receive them by social indoctrination. And yet, it was this same Socrates who died in obedience to the judgment of the state, even though he believed this judgment to be wrong. Again, historical Christianity has been expressly and consistently concerned with the importance of this life on earth. The doctrine of the Incarnation, that God took the form of man and inhabited the earth, declares this concern. While perhaps for Greek thought, only the timeless realm had importance, in Christian thought the process of history is vested with absolute significance. If the ideal of democracy was rightly described above in the interwoven ideas of the dignity of man (that is, his existence as an independent moral agent) and his duty to his fellow men (that is, his testing by outward performance), the debt of these two ideas to the similarly interwoven commandments of the love of God and the love of neighbor is obvious.

These evidences of a consistent and characteristic appeal throughout Western history to the test of reason and experience are not adduced for the purpose of minimizing the huge creativeness of the modern scientific age or of glozing over its actual break from the past. In the well-known opening chapters of his *Science and the Modern World* in which he inquires into the origin of modern science, Mr. Whitehead pictures it as inspired by a revolt against abstract reasoning and a respect for unique fact. So considered, the first impulse of modern science was

antirational or, better, antitheoretical, in the sense that it was a reaction against the most towering intellectual system which the West has known, namely, scholasticism. But be this question of origin as it may, there is no doubt that the modern mind received one of its characteristic bents in the empiricism, the passion for observation, and the distrust of abstract reasoning which have attended the origin and growth of science.

But there also seems no doubt that what happened was a shift, perhaps to some degree a restoration, of emphasis within the Western tradition itself rather than a complete change in its nature. It is a mistake to identify the older Western culture with traditionalism. Classical antiquity handed on a working system of truth which relied on both reason and experience and was designed to provide a norm for civilized life. Its import was heightened and vastly intensified by its confluence with Christianity. But when, in its rigid systematization in the late Middle Ages, it lost touch with experience and individual inquiry, it violated its own nature and provoked the modernist revolt. The seeming opposition that resulted between traditionalism and modernism has been a tragedy for Western thought. Modernism rightly affirms the importance of inquiry and of relevance to experience. But as scholasticism ran the danger of becoming a system without vitality, so modernism runs the danger of achieving vitality without pattern.

While, then, there are discontinuities between the classical and the modern components of our Western culture, there are also continuities. For instance, it would be wrong to construe the scientific outlook as inimical to human values. Even if it were true that science is concerned with means only, it would not follow that science ignores the intrinsic worth of man. For the values of human life cannot be achieved within a physical vacuum; they require for their fulfillment the existence of material conditions. To the extent that classical civilization failed to mitigate the evils of poverty, disease, squalor, and a generally low level of living among the masses, to that extent it failed to liberate man. Conversely, to the extent that science, especially in its medical and technological applications, has succeeded in

dealing with these evils, it has contributed to the realization of human values. Thus science has implemented the humanism which classicism and Christianity have proclaimed.

Science has done more than provide the material basis of the good life; it has directly fostered the spiritual values of humanism. To explain, science is both the outcome and the source of the habit of forming objective, disinterested judgments based upon exact evidence. Such a habit is of particular value in the formation of citizens for a free society. It opposes to the arbitrariness of authority and "first principles" the direct and continuing appeal to things as they are. Thus it develops the qualities of the free man. It is no accident that John Locke, who set forth the political doctrine of the natural rights of man against established authority, should have been also the man who rejected the authority of innate ideas.

Students of antiquity and of the Middle Ages can therefore rightly affirm that decisive truths about the human mind and its relation to the world were laid hold of then, and yet agree that, when new application of these truths was made through a more scrupulous attention to fact, their whole implication and meaning were immensely enlarged. Modern civilization has seen this enlargement of meaning and possibility; yet it is not a new civilization but the organic development of an earlier civilization. The true task of education is therefore so to reconcile the sense of pattern and direction deriving from heritage with the sense of experiment and innovation deriving from science that they may exist fruitfully together, as in varying degrees they have never ceased to do throughout Western history.

Belief in the dignity and mutual obligation of man is the common ground between these contrasting but mutually necessary forces in our culture. As was pointed out earlier, this belief is the fruit at once of religion, of the Western tradition, and of the American tradition. It equally inspires the faith in human reason which is the basis for trust in the future of democracy. And if it is not, strictly speaking, implied in all statements of the scientific method, there is no doubt that science has become its powerful instrument. In this tension between the opposite forces of herit-

age and change poised only in the faith in man, lies something like the old philosophic problem of the knowledge of the good. If you know the good, why do you seek it? If you are ignorant of the good, how do you recognize it when you find it? You must evidently at one and the same time both know it and be ignorant of it. Just so, the tradition which has come down to us regarding the nature of man and the good society must inevitably provide our standard of good. Yet an axiom of that tradition itself is the belief that no current form of the received ideal is final but that every generation, indeed every individual, must discover it in a fresh form. Education can therefore be wholly devoted neither to tradition nor to experiment, neither to the belief that the ideal in itself is enough nor to the view that means are valuable apart from the ideal. It must uphold at the same time tradition and experiment, the ideal and the means, subserving, like our culture itself, change within commitment.

2

General and Special Education

IN the previous section we have attempted to outline the unifying elements of our culture and therefore of American education as well. In the present section we shall take the next step of indicating in what ways these cultural strands may be woven into the fabric of education. Education is broadly divided into general and special education; our topic now is the difference and the relationship between the two. The term, general education, is somewhat vague and colorless; it does not mean some airy education in knowledge in general (if there be such knowledge), nor does it mean education for all in the sense of universal education. It is used to indicate that part of a student's whole education which looks first of all to his life as a responsible human being and citizen; while the term, special education, indicates that part which looks to the student's competence in some occupation. These two sides of life are not entirely separable, and it would

be false to imagine education for the one as quite distinct from education for the other – more will be said on this point presently. Clearly, general education has somewhat the meaning of liberal education, except that, by applying to high school as well as to college, it envisages immensely greater numbers of students and thus escapes the invidium which, rightly or wrongly, attaches to liberal education in the minds of some people. But if one cling to the root meaning of liberal as that which befits or helps to make free men, then general and liberal education have identical goals. The one may be thought of as an earlier stage of the other, similar in nature but less advanced in degree.

The opposition to liberal education – both to the phrase and to the fact – stems largely from historical causes. The concept of liberal education first appeared in a slave-owning society, like that of Athens, in which the community was divided into freemen and slaves, rulers and subjects. While the slaves carried on the specialized occupations of menial work, the freemen were primarily concerned with the rights and duties of citizenship. The training of the former was purely vocational; but as the freemen were not only a ruling but also a leisure class, their education was exclusively in the liberal arts, without any utilitarian tinge. The freemen were trained in the reflective pursuit of the good life; their education was unspecialized as well as unvocational; its aim was to produce a rounded person with a full understanding of himself and of his place in society and in the cosmos.

Modern democratic society clearly does not regard labor as odious or disgraceful; on the contrary, in this country at least, it regards leisure with suspicion and expects its "gentlemen" to engage in work. Thus we attach no odium to vocational instruction. Moreover, in so far as we surely reject the idea of freemen who are free in so far as they have slaves or subjects, we are apt strongly to deprecate the liberal education which went with the structure of the aristocratic ideal. Herein our society runs the risk of committing a serious fallacy. Democracy is the view that not only the few but that all are free, in that everyone governs his own life and shares in the responsibility for the management of the community. This being the case, it follows that all human

beings stand in need of an ampler and rounded education. The task of modern democracy is to preserve the ancient ideal of liberal education and to extend it as far as possible to all the members of the community. In short, we have been apt to confuse accidental with fundamental factors, in our suspicion of the classical ideal. To believe in the equality of human beings is to believe that the good life, and the education which trains the citizen for the good life, are equally the privilege of all. And these are the touchstones of the liberated man: first, is he free; that is to say, is he able to judge and plan for himself, so that he can truly govern himself? In order to do this, his must be a mind capable of self-criticism; he must lead that self-examined life which according to Socrates is alone worthy of a free man. Thus he will possess inner freedom, as well as social freedom. Second, is he universal in his motives and sympathies? For the civilized man is a citizen of the entire universe; he has overcome provincialism, he is objective, and is a "spectator of all time and all existence." Surely these two are the very aims of democracy itself.

But the opposition to general education does not stem from causes located in the past alone. We are living in an age of specialism, in which the avenue to success for the student often lies in his choice of a specialized career, whether as a chemist, or an engineer, or a doctor, or a specialist in some form of business or of manual or technical work. Each of these specialties makes an increasing demand on the time and on the interest of the student. Specialism is the means for advancement in our mobile social structure; yet we must envisage the fact that a society controlled wholly by specialists is not a wisely ordered society. We cannot, however, turn away from specialism. The problem is how to save general education and its values within a system where specialism is necessary.

The very prevalence and power of the demand for special training makes doubly clear the need for a concurrent, balancing force in general education. Specialism enhances the centrifugal forces in society. The business of providing for the needs of society breeds a great diversity of special occupations; and a

given specialist does not speak the language of the other specialists. In order to discharge his duties as a citizen adequately, a person must somehow be able to grasp the complexities of life as a whole. Even from the point of view of economic success, specialism has its peculiar limitations. Specializing in a vocation makes for inflexibility in a world of fluid possibilities. Business demands minds capable of adjusting themselves to varying situations and of managing complex human institutions. Given the pace of economic progress, techniques alter speedily; and even the work in which the student has been trained may no longer be useful when he is ready to earn a living or soon after. Our conclusion, then, is that the aim of education should be to prepare an individual to become an expert both in some particular vocation or art and in the general art of the free man and the citizen. Thus the two kinds of education once given separately to different social classes must be given together to all alike.

In this epoch in which almost all of us must be experts in some field in order to make a living, general education therefore assumes a peculiar importance. Since no one can become an expert in all fields, everyone is compelled to trust the judgment of other people pretty thoroughly in most areas of activity. I must trust the advice of my doctor, my plumber, my lawyer, my radio repairman, and so on. Therefore I am in peculiar need of a kind of sagacity by which to distinguish the expert from the quack, and the better from the worse expert. From this point of view, the aim of general education may be defined as that of providing the broad critical sense by which to recognize competence in any field. William James said that an educated person knows a good man when he sees one. There are standards and a style for every type of activity — manual, athletic, intellectual, or artistic; and the educated man should be one who can tell sound from shoddy work in a field outside his own. General education is especially required in a democracy where the public elects its leaders and officials; the ordinary citizen must be discerning enough so that he will not be deceived by appearances and will elect the candidate who is wise in his field.

Both kinds of education — special as well as general — con-

tribute to the task of implementing the pervasive forces of our culture. Here we revert to what was said at the start of this chapter on the aims of education in our society. It was argued there that two complementary forces are at the root of our culture: on the one hand, an ideal of man and society distilled from the past but at the same time transcending the past as a standard of judgment valid in itself, and, on the other hand, the belief that no existent expressions of this ideal are final but that all alike call for perpetual scrutiny and change in the light of new knowledge. Specialism is usually the vehicle of this second force. It fosters the open-mindedness and love of investigation which are the wellspring of change, and it devotes itself to the means by which change is brought about. The fact may not always be obvious. There is a sterile specialism which hugs accepted knowledge and ends in the bleakest conservatism. Modern life also calls for many skills which, though specialized, are repetitive and certainly do not conduce to inquiry. These minister to change but unconsciously. Nevertheless, the previous statement is true in the sense that specialism is concerned primarily with knowledge in action, as it advances into new fields and into further applications.

Special education comprises a wider field than vocationalism; and correspondingly, general education extends beyond the limits of merely literary preoccupation. An example will make our point clearer. A scholar — let us say a scientist (whether student or teacher) — will, in the laudable aim of saving himself from narrowness, take a course in English literature, or perhaps read poetry and novels, or perhaps listen to good music and generally occupy himself with the fine arts. All this, while eminently fine and good, reveals a misapprehension. In his altogether unjustified humility, the scientist wrongly interprets the distinction between liberal and illiberal in terms of the distinction between the humanities and the sciences. Plato and Cicero would have been very much surprised to hear that geometry, astronomy, and the sciences of nature in general, are excluded from the humanities. There is also implied a more serious contempt for the liberal arts, harking back to the fallacy which identifies liberal education with the aristocratic ideal. The implication is that liberal education is

something only genteel. A similar error is evident in the student's attitude toward his required courses outside his major field as something to "get over with," so that he may engage in the business of serious education, identified in his mind with the field of concentration.

Now, a general education is distinguished from special education, not by subject matter, but in terms of method and outlook, no matter what the field. Literature, when studied in a technical fashion, gives rise to the special science of philology; there is also the highly specialized historical approach to painting. Specialism is interchangeable, not with natural science, but with the method of science, the method which abstracts material from its context and handles it in complete isolation. The reward of scientific method is the utmost degree of precision and exactness. But, as we have seen, specialism as an educational force has its own limitations; it does not usually provide an insight into general relationships.

A further point is worth noting. The impact of specialism has been felt not only in those phases of education which are necessarily and rightly specialistic; it has affected also the whole structure of higher and even of secondary education. Teachers, themselves products of highly technical disciplines, tend to reproduce their knowledge in class. The result is that each subject, being taught by an expert, tends to be so presented as to attract potential experts. This complaint is perhaps more keenly felt in colleges and universities, which naturally look to scholarship. The undergraduate in a college receives his teaching from professors who, in their turn, have been trained in graduate schools. And the latter are dominated by the ideal of specialization. Learning now is diversified and parceled into a myriad of specialties. Correspondingly, colleges and universities are divided into large numbers of departments, with further specialization within the departments. As a result, a student in search of a general course is commonly frustrated. Even an elementary course is devised as an introduction to a specialism within a department; it is significant only as the beginning of a series of courses of advancing complexity. In short, such introductory courses are planned for

the specialist, not for the student seeking a general education. The young chemist in the course in literature and the young writer in the course in chemistry find themselves in thoroughly uncomfortable positions so long as the purpose of these courses is primarily to train experts who will go on to higher courses rather than to give some basic understanding of science as it is revealed in chemistry or of the arts as they are revealed in literature.

It is most unfortunate if we envisage general education as something formless – that is to say, the taking of one course after another; and as something negative, namely, the study of what is not in a field of concentration. Just as we regard the courses in concentration as having definite relations to one another, so should we envisage general education as an organic whole whose parts join in expounding a ruling idea and in serving a common aim. And to do so means to abandon the view that all fields and all departments are equally valuable vehicles of general education. It also implies some prescription. At the least it means abandoning the usual attitude of regarding "distribution" as a sphere in which the student exercises a virtually untrammeled freedom of choice. It may be objected that we are proposing to limit the liberty of the student in the very name of liberal education. Such an objection would only indicate an ambiguity in the conception of liberal education. We must distinguish between liberalism in education and education in liberalism. The former, based as it is on the doctrine of individualism, expresses the view that the student should be free in his choice of courses. But education in liberalism is an altogether different matter; it is education which has a pattern of its own, namely, the pattern associated with the liberal outlook. In this view, there are truths which none can be free to ignore, if one is to have that wisdom through which life can become useful. These are the truths concerning the structure of the good life and concerning the factual conditions by which it may be achieved, truths comprising the goals of the free society.

Finally, the problem of general education is one of combining fixity of aim with diversity in application. It is not a question of

providing a general education which will be uniform through the same classes of all schools and colleges all over the country, even were such a thing possible in our decentralized system. It is rather to adapt general education to the needs and intentions of different groups and, so far as possible, to carry its spirit into special education. The effectiveness of teaching has always largely depended on this willingness to adapt a central unvarying purpose to varying outlooks. Such adaptation is as much in the interest of the quick as of the slow, of the bookish as of the unbookish, and is the necessary protection of each. What is wanted, then, is a general education capable at once of taking on many different forms and yet of representing in all its forms the common knowledge and the common values on which a free society depends.

3

Areas of Knowledge

WE have gradually moved from the less to the more specific, until now we have reached the topic of actual outcomes of education. In this section we shall deal with general education only; and our question will take two forms: what characteristics (traits of mind and character) are necessary for anything like a full and responsible life in our society; and, by what elements of knowledge are such traits nourished? These two questions, these two aspects, are images of each other. We have repeatedly found ourselves until now describing general education, at one time, as looking to the good of man in society and, at another time, as dictated by the nature of knowledge itself. There is no escape from thus shifting from one face of the same truth to the other. But temporarily and for the sake of clarity it may be useful to separate the two questions and consider first the elements of knowledge, and later the characteristics.

Tradition points to a separation of learning into the three areas of natural science, social studies, and the humanities. The

study of the natural sciences looks to an understanding of our physical environment, so that we may have a suitable relation to it. The study of the social sciences is intended to produce an understanding of our social environment and of human institutions in general, so that the student may achieve a proper relation to society – not only the local but also the great society, and, by the aid of history, the society of the past and even of the future. Finally, the purpose of the humanities is to enable man to understand man in relation to himself, that is to say, in his inner aspirations and ideals.

While all this is obvious and even trite, it is hardly adequate. Subject matters do not lend themselves to such neat distinctions. To consider only one example, psychology, which has been classified as a natural science in the above list, surely has, or ought to have, something to say about human nature. A more serious flaw of this classification is that it conceives of education as the act of getting acquainted with something, and so as the acquiring of information. But information is inert knowledge. Yet, given this limitation, such an approach has its merits because it directs the student's attention to the useful truth that man must familiarize himself with the environment in which nature has placed him if he is to proceed realistically with the task of achieving the good life.

A much better justification of the way in which the areas of learning are divided is in terms of methods of knowledge. Let us start with the difference between the natural sciences and the humanities. The former describe, analyze, and explain; the latter appraise, judge, and criticize. In the first, a statement is judged as true or false; in the second, a result is judged as good or bad. The natural sciences do not take it on themselves to evaluate the worth of what they describe. The chemist is content to state the actual structure of his compound without either praising or deploring the fact. Natural science measures what can be measured, and it operates upon its materials with the instruments of formal logic and mathematics. Yet these latter are not themselves science or even the final arbiters of science. Science serves a harsher master – the brute facts of physical reality. Logic and mathe-

matics are triumphs of abstraction. These are the media by which a scientific argument is pursued. But when the argument has by these means yielded a solution, this in turn must meet the question, "is it real?" "is it true?" By this final appeal to things as they are, or as they appear to be, the argument stands or falls.

In contrast to mathematics and the natural sciences, the humanities explore and exhibit the realm of value. For example, in literature the student is presented with various ways of life, with the tragic and the heroic outlook, or with the merely pathetic and ridiculous. His imagination is stirred with vivid evocations of ideals of action, passion, and thought, among which he may learn to discriminate. The intelligent teacher will explore the great arts and literatures in order to bring out the ideals toward which man has been groping, confusedly yet stubbornly. And of course the arts have done as much through form as through content; they disclose varying standards of taste.

Although techniques have been developed for the study of natural phenomena, no comparable progress has been made in our insight into values. We can measure a physical body, but we cannot measure an ideal, nor can we put critical standards under a microscope so as to note all their elements with precision. Science aims at precision and gets it. This is true, partly because science will not bother itself with facts when these do not lend themselves to the methods of exact observation. It limits itself to events that recur and to things which permit measurement. To the extent that an object is truly unique and occurs only once it is not the stuff of science. For example, every society is to a degree unique; hence the student of social phenomena is still baffled in his search for strict uniformities.

To admit that a difference exists between the methods of science and our insight into values is one thing; to go on from there and assert that values are wholly arbitrary is a different and wholly unjustified conclusion. It has been thought that, since the words right and wrong as applied to ethical situations do not have the same meaning as right and wrong when applied to mathematical propositions, no rational criteria are involved; and

that one is at liberty to choose any set of standards more or less from the air and apply them to the problems which come to hand. Or by way of reaction some persons have gone to the opposite extreme of setting up fixed dogmas and imposing them by sheer authority. But standards are the reflection neither of personal whims nor of dogmatic attitudes. In the realm of values, critical analysis of complex situations is possible by rational methods and in the light of what other men have thought upon such matters. Here we return to what was said earlier in this chapter about the twin contribution of heritage and innovation to human beliefs. Starting with a few premises, for instance with those involved in our commitment to a free society, the mind can proceed to analyze the implications of these premises and also to modify their initial meaning by the aid of experience. While there can be no experimenting with ideals, there is experience of values in application, and there is heaping up of such experience. While there can be no precise measurement, there is intelligent analysis of codes and standards. While there are no simple uniformities, there are moral principles which command the assent of civilized men. Of all this more presently; our conclusion is that value-judgments are, or at least can be, rational in so far as they are informed and disciplined; they are communicable and can become matters of intelligent discussion and persuasion.

Finally, on this basis the social studies may be said to combine the methods of the natural sciences and of the humanities, and to use both explanation and evaluation. For instance, the historian is obviously concerned with facts and events and with the causal relations between happenings; yet he is no less concerned with values. A historical fact is not merely a fact: it is a victory or a defeat, an indication of progress or of retrogression, it is a misfortune or good fortune. We do not mean by this that a historian passes moral judgments on events and nations. We do mean that a historian is selective; that out of the infinity of events he chooses those that have a bearing on man's destiny. A similar situation is disclosed in economics, which is a judicious mixture, not always acknowledged or even realized, of factual

objective study and normative judgment. The classical, if not the contemporary, economist is engaged on the one hand in a description and analysis of this or that economic institution, and on the other hand with a criticism of what he describes and analyzes in the light of the norm of a sound economy. From this point of view the object of philosophy would appear to be the bringing together of both facts and values. Philosophy asks the question: what is the place of human aspirations and ideals in the total scheme of things?

The method of science can be set off against the method of social studies and humanities taken together in the following way. In science, new findings are constantly being made in such a way that the sum of these findings constitutes the current view of truth. Science is knowledge for which an exact standard of truth exists; as a result, within any particular present there is common agreement about what is scientific truth; or if the agreement is lacking there are determinate criteria commonly agreed upon, by the application of which the issue can be settled. But in the other two fields there is often no common agreement as to what is valid within any given present; there is diversity of schools and doctrines, the reason being that a standard of exact truth or exact rightness is lacking. In the sciences, thought is progressive; the later stage corrects the earlier and includes the truth of the earlier. Were Galileo able to return to the land of the living, who doubts that he would regard later changes in *physical theory as an improvement on his own? In consequence*, the history of its thought is strictly irrelevant to science. But it is impossible to say with the same assurance that our philosophy or art, though presumably better than the cave man's, is better than that of the Greeks or of the men of the Renaissance. The work of any genius in art or philosophy or literature represents in some sense a complete and absolute vision. Goethe does not render Sophocles obsolete, nor does Descartes supersede Plato. The geniuses that follow do not so much correct preceding insights as they supply alternative but similarly simple and total insights from new perspectives. For this reason historical knowledge has a special importance in philosophy, and the achieve-

ments of the past have a significance for the arts and literature which is certainly not true of science.

At this point the impatient reader will interject that the distinctions which we have made do not really distinguish. We have said that literature exhibits life as it might be; yet is it not a fact that literature also depicts life as it is? We have said that economics is concerned with norms as well as actualities; yet surely mathematical economics is an analytical study and nothing else. And conversely, the reader may add, it is false that science is wholly restricted to the techniques of measurement. The very method of science, the way in which it defines a fact and its essential presuppositions, is not subject to scientific proof. All this we admit without reservation. The distinctions we have made are rough and inexact; the total area of learning is more like a spectrum along which the diverse modes of thought are combined in varying degrees, approximating to purity only at the extreme ends.

Nevertheless, these distinctions retain their importance at least for pragmatic, that is, educational reasons. If it is true that in questions of government the words right and wrong, true and false, lack the exactitude which they have in questions of mathematics, the fact must be of the essence of teaching government and history. Clearly, education will not look solely to the giving of information. Information is of course the basis of any knowledge, but if both the nature of truth and the methods of asserting it differ as between the areas, the fact must be made fully apparent. As Mr. Whitehead has said, a student should not be taught more than he can think about. Selection is the essence of teaching. Even the most compendious survey is only the rudest culling from reality. Since the problem of choice can under no circumstances be avoided, the problem becomes what, rather than how much, to teach; or better, what principles and methods to illustrate by the use of information. The same conflict between the factual aspects of a subject and the need of insight into the kind of truth with which it deals arises in an acute form in that most factual of disciplines, natural science itself. While a heaping up of information is peculiarly necessary in the teaching of

science, information is not enough. Facts must be so chosen as to convey not only something of the substance of science but, also and above all, of its methods, its characteristic achievements, and its limitations. To the extent that a student becomes aware of the methods he is using, and critically conscious of his presuppositions, he learns to transcend his specialty and generates a liberal outlook in himself.

4

Traits of Mind

AT the time of his examination the average student hardly remembers more than 75 per cent of what he was taught. If he were a sophomore when he took the course, how much does he recall by the time of his graduation, how much five years later, how much, or how little, when he returns on his twenty-fifth reunion? Pondering on all this, the pessimist might well conclude that education is a wholly wasteful process. He would of course be wrong, for the simple reason that education is not a process of stuffing the mind with facts. Yet he would be partly right because the student soon forgets not only many facts but even some general ideas and principles. No doubt we are exaggerating. Those students particularly who have been able to unite what they learned in school or college with later studies or with their jobs do retain a surprising amount of information. Nevertheless, the real answer to the pessimist is that education is not merely the imparting of knowledge but the cultivation of certain aptitudes and attitudes in the mind of the young. As we have said earlier, education looks both to the nature of knowledge and to the good of man in society. It is to the latter aspect that we shall now turn our attention — more particularly to the traits and characteristics of mind fostered by education.

By characteristics we mean aims so important as to prescribe how general education should be carried out and which abilities should be sought above all others in every part of it. These

abilities, in our opinion, are: *to think effectively, to communicate thought, to make relevant judgments, to discriminate among values.* They are not in practice separable and are not to be developed in isolation. Nor can they be even analyzed in separation. Each is an indispensable coexistent function of a sanely growing mind. Nonetheless, since exposition requires that one thing be discussed at one time, our description of these abilities must take them up in turn.

By *effective thinking* we mean, in the first place, logical thinking: the ability to draw sound conclusions from premises. Yet by logical thinking we do not mean the equipment of the specialist or what a student would learn by taking a course in formal logic. We are concerned with the student who is going to be a worker, or a businessman, or a professional man, and who does not necessarily look forward to a career in scholarship or in pure science. As a plain citizen he will practice his logical skills in practical situations – in choosing a career, in deciding whom to vote for, or what house to buy, or even in choosing a wife. But perhaps the last case is just the point where logical skills fail, although European parents might disagree.

Logical thinking is the capacity to extract universal truths from particular cases and, in turn, to infer particulars from general laws. More strictly, it is the ability to discern a pattern of relationships – on the one hand to analyze a problem into its component elements, and on the other to recombine these, often by the use of imaginative insight, so as to reach a solution. Its prototype is mathematics which, starting with a few selected postulates, makes exact deductions with certainty. Logical thinking is involved to a degree in the analysis of the structure of a painting as well as in that of a geometrical system. In moving toward a solution, the trained mind will have a sharp eye for the relevant factors while zealously excluding all that is irrelevant; and it will arrange the relevant factors according to weight. For instance, in voting during a presidential election our citizen should consider whether the candidate has sound policies, whether he has the ability to get on with Congress, whether he has a good grasp of international relations, and, in these troubled

times, whether he has an understanding of military strategy. These are some of the factors which are relevant to the problem in hand. But the looks of the candidate most probably, and his religious denomination surely, are irrelevant. Prejudice brings in irrelevancies and logic should keep them out.

Effective thinking, while starting with logic, goes further so as to include certain broad mental skills. Thus an effective thinker is a man who can handle terms and concepts with skill and yet does not confuse words with things; he is empirical in the widest sense of the word, looking outward to nature. He is not satisfied merely with noting the facts, but his mind ever soars to implications. He knows when he knows and when he does not; he does not mistake opinion for knowledge. Furthermore, effective thinking includes the understanding of complex and fluid situations, in dealing with which logical methods are inadequate as mental tools. Of course thinking must never violate the laws of logic, but it may use techniques beyond those of exact mathematical reasoning. In the fields of the social studies and history, and in the problems of daily life, there are large areas where evidence is incomplete and may never be completed. Sometimes the evidence may be also untrustworthy; but, if the situation is practical, a decision must be made. The scientist has been habituated to deal with properties which can be abstracted from their total background and with variables which are few and well defined. Consequently, where the facts are unique and unpredictable, where the variables are numerous and their interactions too complicated for precise calculation, the scientist is apt to throw up his hands in despair and perhaps turn the situation over to the sentimentalist or the mystic. But surely he would be wrong in so doing; for the methods of logical thinking do not exhaust the resources of reason. In coping with complex and fluid situations we need thinking which is relational and which searches for cross bearings between areas; this is thinking in a context. By its use it is possible to reach an understanding of historical and social materials and of human relations, although not with the same degree of precision as in the case of simpler materials and of recurring events. As Aristotle says, "It is the

mark of an educated man to expect no more exactness than the subject permits."

A further element in effective thinking is the imagination, by which we mean whatever is distinctive in the thinking of the poet. Logical thinking is straight, as opposed to crooked, thinking; and that of the poet may be described as curved thinking. Where the scientist operates with abstract conceptions the poet employs sensuous images; imagination is the faculty of thinking in terms of concrete ideas and symbols. Instead of reading a prosaic analysis of exuberant vitality, we may get a direct vision of it in Manet's portrait of the boy with the flute. We may study human nature in the psychologist's abstract accounts of it, or we may see it in the vivid presentations of imagined individuals like Othello, Becky Sharp, Ulysses, and Anna Karenina. The reader might demur that imagination has little to do with effective thinking. Yet the imagination is most valuable in the field of human relations. Statistics are useful, but statistics alone will not carry us very far in the understanding of human beings. We need an imagination delicately sensitive to the hopes and the fears, the qualities and the flaws of our fellow man, and which can evoke a total personality in its concrete fullness. In practical matters, imagination supplies the ability to break with habit and routine, to see beyond the obvious and to envisage new alternatives; it is the spur of the inventor and the revolutionary, no less than of the artist.

It may be noted that the three phases of effective thinking, logical, relational, and imaginative, correspond roughly to the three divisions of learning, the natural sciences, the social studies, and the humanities, respectively.

Communication — the ability to express oneself so as to be understood by others — is obviously inseparable from effective thinking. In most thinking, one is talking to oneself; and good speech and writing are the visible test and sign of good thinking. Conversely, to speak clearly one must have clear ideas. You cannot say something unless you have something to say; but in order to express your ideas properly you also need some skill in communication. There is something else too: the honest

intent to make your ideas known, as against the desire to deceive or merely to conceal. Communication is not speaking only but listening as well; you cannot succeed in communicating your ideas unless the other person wishes to hear and knows how to listen. As there are two kinds of language, oral and written, communication breaks up into the four related skills of speaking and listening, writing and reading.

Communication is that unrestricted exchange of ideas within the body politic by which a prosperous intellectual economy is secured. In its character as the sharing of meanings it is the instrument by which human beings are welded into a society, both the living with the living and the living with the dead. In a free and democratic society the art of communication has a special importance. A totalitarian state can obtain consent by force; but a democracy must persuade, and persuasion is through speech, oral or other. In a democracy issues are aired, talked out of existence or talked into solution. Failure of communication between the citizens, or between the government and the public, means a breakdown in the democratic process. Nevertheless, whereas people have been brought together nearer than ever before, in a physical sense, by the improvement of mechanisms of transportation, it cannot be said that mutual understanding among individuals and among peoples has made a corresponding advance. Skills, crafts, professions, and scholarly disciplines are apt to surround themselves by high walls of esoteric jargon. Other barriers are erected through the tendency to convert communication into propaganda, whether it be political propaganda, or economic propaganda, as for instance in some types of advertising. Thus, effective communication depends on the possession not only of skills such as clear thinking and cogent expression but of moral qualities as well, such as candor.

In older days, a course on rhetoric was a normal part of the curriculum. Rhetoric to us suggests oratory, and today we are suspicious of or at least indifferent to oratory. Yet the art of rhetoric meant the simple skill of making one's ideas clear and cogent; it did not necessarily mean high-flown speeches. The simplest example of communication is conversation. It is a truism

to say that conversation is a lost art. The question is, where was it lost? If we carry on less, or less good, conversation than our ancestors did, is it because we have lost the art, or because, having become technicians, we have little to say that is suitable for general conversation, or because we are much more interested in doing things – driving, for example, or playing bridge? Learned persons are apt to disparage conversation as trivial or frivolous, but unjustly so. If you are looking for the uncovering of important truths during a dinner party, of course you may be disappointed; but that is because you will be looking for the wrong thing. The contribution of general conversation is the revelation and impact of personality. While nothings are being bandied about and trivial words, like the lightest balloons, are launched into the air, contact with personalities is being achieved through characteristic inflections and emphases, through readiness or shyness of response. In conversation the idea is inseparable from the man; conversation is useful because it is the most unforced and natural means of bringing persons together into a society. Beyond its social function, conversation is a delight in itself. It is an art, yet it loses its value if it becomes artificial. Its essence is spontaneity, impetus, movement; the words of a conversation are evanescent, things of the moment, while written words are formalized, rigid, and fixed. Starting with simple things like the weather and minor personal happenings, it proceeds to weave a pattern of sentiments and ideas, and through these of persons, which is fugitive just because it is alive.

Perhaps we have wandered too far from the serious – or should we say the ponderous – aspects of our problem. Yet we had a point to make: that language needs to be neither high learning nor high literature in order to be communication. What we have in mind is the language of a businessman writing a plain and crisp letter, of a scientist making a report, of a citizen asking straight questions, of human beings arguing together on some matter of common interest.

The *making of relevant judgments* involves the ability of the student to bring to bear the whole range of ideas upon the area of experience. It is not now a question of apprehending more rela-

tionships within ideas but of applying these to actual facts. The most competent instructor of military science is not necessarily the best officer in the field. An adequate theory of ball playing is conceivable, but an abstract knowledge of it would not make a good ballplayer any more than a course on poetics, however good, would make a good poet. It is not the power to distinguish or state the universal formula, for separated contemplation, which heightens our skill. It is the power to use the formula in the new concrete situations as they fleet past us which education aims to advance. In Plato's myth the philosopher who has obtained the vision of the good must return to the cave and use his vision in order to guide himself among the shadows. Initially and inevitably he is confused; only after long habituation is he able to find his way around and properly to apply his concepts to his concrete experience. There is no rule to be learned which could tell the student how to apply rules to cases; the translation from theory to practice involves an art all its own and requires the skill which we call sagacity or judgment.

To some degree every school or college is separated from life by high walls, visible or invisible; it holds reality at arm's length. And up to a point this is necessary and proper. While it is true that the present is our only fact, nevertheless we cannot see the present so long as we are immersed in it; we need the perspective afforded by distance in time and in space. One of the aims of education is to break the stranglehold of the present upon the mind. On the other side is the fact that youth is instinctive and ardent; to subject youth to a steady diet of abstractions alone would be cruel and unnatural. Moreover, abstractions in themselves are meaningless unless connected with experience; and for this reason all education is in some sense premature. The adult who rereads his great authors realizes how much he had missed of their meaning when he read them in school or college. Now his reading is more rewarding because his range of experience is greater. One might conceive fancifully of another scheme of life in which work comes first and education begins later, say at forty-five. The advantages of this scheme are obvious. Not only would the mature student be amply equipped with the depth of

experience necessary for the understanding of the great authors, but the financial problem would be solved. The student would have saved enough money from his work, or perhaps his children would support him.

But such utopias are not for us; we have to deal with harsh realities. Education must be so contrived that the young, during the very process of their schooling, will realize the difference between abstractions and facts and will learn to make the transition from thought to action. A young man who has been nourished with ideas exclusively will be tempted by the sin of intellectual pride, thinking himself capable of dealing with any problem, independently of experience. When he later comes into contact with things, he will stumble or perhaps in self-defense withdraw into sterile cleverness. As we have seen, the aptitude of making relevant judgments cannot be developed by theoretical teaching; being an art, it comes from example, practice, and habituation. The teacher can do a great deal nonetheless; he can relate theoretical content to the student's life at every feasible point, and he can deliberately simulate in the classroom situations from life. Finally, he can bring concrete reports of actual cases for discussion with the students. The essential thing is that the teacher should be constantly aware of the ultimate objectives, never letting means obscure ends, and be persistent in directing the attention of the student from the symbols to the things they symbolize.

Discrimination among values involves choice. The ability to discriminate in choosing covers not only awareness of different kinds of value but of their relations, including a sense of relative importance and of the mutual dependence of means and ends. It covers also much that is analogous to method in thinking; for example, the power to distinguish values truly known from values received only from opinion and therefore not in the same way part of the fabric of experience. Values are of many kinds. There are the obvious values of character, like fair play, courage, self-control, the impulse of beneficence and humanity; there are the intellectual values, like the love of truth and the respect for the intellectual enterprise in all its forms; there are the aesthetic

values, like good taste and the appreciation of beauty. As for the last, people are apt to locate beauty in picture galleries and in museums and to leave it there; it is equally, if not more, important to seek beauty in ordinary things, so that it may surround one's life like an atmosphere.

Add to all this that the objective of education is not just knowledge of values but commitment to them, the embodiment of the ideal in one's actions, feelings, and thoughts, no less than an intellectual grasp of the ideal. The reader may objec. that we are proposing a confusion, that we are suggesting the turning of school or college into a moral reformatory or a church. For is not the purpose of educational institutions to train the mind and the mind only? Yet it is not easy, indeed it is impossible, to separate effective thinking from character. An essential factor in the advancement of knowledge is intellectual integrity, the suppression of all wishful thinking and the strictest regard for the claims of evidence. The universal community of educated men is a fellowship of ideals as well as of beliefs. To isolate the activity of thinking from the morals of thinking is to make sophists of the young and to encourage them to argue for the sake of personal victory rather than of the truth. We are not so naive as to suggest that theoretical instruction in the virtues will automatically make a student virtuous. Rather, we assert that the best way to infect the student with the zest for intellectual integrity is to put him near a teacher who is himself selflessly devoted to the truth; so that a spark from the teacher will, so to speak, leap across the desk into the classroom, kindling within the student the flame of intellectual integrity, which will thereafter sustain itself.

The problem of moral values and character is more complex. Here the college does not play quite the same role as the school. Clearly we have a right to expect the school to be engaged directly in moral education. But although the college shares in this responsibility, it cannot be expected to use the same direct approach. The college will have to confine itself to providing a proper discrimination of values and will trust to the Socratic dictum that the knowledge of the good will lead to a commit-

ment to the good. Nevertheless, we must recognize a difference between the responsibility of both school and college to train the intellect and their responsibility to form character. In some sense, the former responsibility is a unique one for the educational institution. But in the sphere of moral instruction the school shares its responsibilities with numerous other institutions, of which the family is the most important. Moreover, the school's responsibility is less than that of the family in this field. To use an earlier figure there is danger in regarding the school as a modern Atlas to whom is entrusted the bearing of the whole task of the formation of man. To change the metaphor, a wise society does not put all its eggs in one basket. By the same token, the school cannot remain uninterested in the task of moral education. Just as liberal education, while strictly liberal, must somehow be oriented toward vocationalism, so in this general way will school and college be oriented toward moral character.

Discrimination in values is developed by the study of all the three areas of learning. We have seen that the humanities point both to moral and to aesthetic values. It may be true, as we have said earlier, that ethical neutrality is a guiding rule for the historian as scholar. Nevertheless, the historian or social scientist, as *teacher*, should probably go further and present to the student the human past and human institutions not merely as facts but as attempted embodiments of the good life in its various phases. In the natural sciences facts are studied in abstraction from values. But this separation, while pragmatically valid, leads to disaster if treated as final. Values are rooted in facts; and human ideals are somehow a part of nature.

5

The Good Man and the Citizen

GENERAL education, we repeat, must consciously aim at these abilities: at effective thinking, communication, the making of relevant judgments, and the discrimination of values. As was

noted earlier, one of the subtlest and most prevalent effects of specialism has been that, through its influence, subjects have tended to be conceived and taught with an eye, so to speak, to their own internal logic rather than to their larger usefulness to students. In a course in history, for example, little concern will be felt for a student's ability to express himself, which will be left to English, or for his ability to think logically, which will fall to mathematics. Good teachers will, to be sure, always say of their subject that it subserves these higher aims, and to their great credit many do seek these aims. But the organization of knowledge into rigid, almost autonomous units, works against them. One of the few clear facts about the unclear and much disputed question of the transfer of powers from one subject to another is that it will tend not to take place unless it is deliberately planned for and worked for. Again, every course, whether general or special, may be expected to contribute something to all these abilities. Doubtless some courses will contribute more to some traits and others to others, but these abilities are after all of quite universal importance. Communication is basic to science as well as to literature; the power to think effectively is as essential to all forms of speech as it is to mathematics. Indeed, it will not be fostered as it should even by mathematics, unless the logical movements which find their purest form in theorems and equations are expressly given wider use. The power to discriminate between values is involved in this very act of wider application. *Finally, the mastery of any one of the three large areas of* learning will be of little use to the student unless he can relate his learning to the realities of experience and practice.

Human personality cannot, however, be broken up into distinct parts or traits. Education must look to the whole man. It has been wisely said that education aims at the good man, the good citizen, and the useful man. By a good man is meant one who possesses an inner integration, poise, and firmness, which in the long run come from an adequate philosophy of life. Personal integration is not a fifth characteristic in addition to the other four and coördinate with them; it is their proper fruition. The aim of liberal education is the development of the whole man;

and human nature involves instincts and sentiments as well as the intellect. Two dangers must be mentioned. First, there is the danger of identifying intelligence with the qualities of the so-called intellectual type – with bookishness and skill in the manipulation of concepts. We have tried to guard against this mistake by stressing the traits of relevant judgment and discrimination of values in effective thinking. Second, we must remember that intelligence, even when taken in its widest sense, does not exhaust the total potentialities of human nature. Man is not a contemplative being alone. Why is it, then, that education is conceived as primarily an intellectual enterprise when, in fact, human nature is so complex? For instance, man has his emotions and his drives and his will; why should education center on the training of the intellect? The answer is found in the truth that intelligence is not a special function (or not that only) but a way in which all human powers may function. Intelligence is that leaven of awareness and reflection which, operating upon the native powers of men, raises them from the animal level and makes them truly human. By reason we mean, not an activity apart, but rational guidance of all human activity. Thus the fruit of education is intelligence in action. The aim is mastery of life; and since living is an art, wisdom is the indispensable means to this end.

We are here disputing the doctrine, sometimes described as the classical view, that in education, reason is a self-sufficient end. Yet it was Plato himself who urged that the guardians of the state should be courageous as well as wise, in other words, that they should be full-blooded human beings as well as trained minds. We equally oppose the view at the other extreme that vitality and initiative, unregulated by the intellect, are adequate criteria of the good man. Whenever the two parts of the single aim are separated, when either thought or action is stressed as an exclusive end, when the teachers look only to scholarly ability and the students (and perhaps the public too) only to proficiency in activities and to "personality" (whatever that may mean), then indeed wholeness is lost. And what is worse, these qualities themselves, in proportion as they are divorced from each other, tend to wither or at least to fall short of fulfilling their promise.

We are not at all unmindful of the importance of religious belief in the completely good life. But, given the American scene with its varieties of faith and even of unfaith, we did not feel justified in proposing religious instruction as a part of the curriculum. The love of God is tested by the love of neighbor; nevertheless the love of God transcends merely human obligations. We must perforce speak in purely humanistic terms, confining ourselves to the obligations of man to himself and to society. But we have been careful so to delimit humanism as not to exclude the religious ideal. Yet we are not arguing for an education which is student-centered. As man is the measure of the abstract values, so in their turn do these values measure man. Like an ellipse, an educational institution has two centers, not one. And although the geometrical metaphor forbids it, truth compels us to add a third, namely, society.

Just as it is wrong to split the human person into separate parts, so would it be wrong to split the individual from society. We must resist the prevalent tendency, or at any rate temptation, to interpret the good life purely in terms of atomic individuals engaged in fulfilling their potentialities. Individualism is often confused with the life of private and selfish interest. The mandate of this committee is to concern itself with "the objectives of education in a free society." It is important to realize that the ideal of a free society involves a twofold value, the value of freedom and that of society. Democracy is a *community* of free men. We are apt sometimes to stress freedom — the power of individual choice and the right to think for oneself — without taking sufficient account of the obligation to coöperate with our fellow men; democracy must represent an adjustment between the values of freedom and social living.

Eighteenth-century liberalism tended to conceive the good life in terms of freedom alone and thought of humanity in pluralistic terms (like matter in Newtonian physics) as an aggregate of independent particles. But a life in which everyone owns his home as his castle and refrains from interfering with others is a community in a negative sense only. Rugged individualism is not sufficient to constitute a democracy; democracy also

is fraternity and coöperation for the common good. Josiah Royce defined the good life in terms of loyalty to a shared value. Of course when union is stressed to the exclusion of freedom we fall into totalitarianism; but when freedom is stressed exclusively we fall into chaos. Democracy is the attempt to combine liberty with loyalty, each limiting the other, and also each reinforcing the other.

It is important, however, to limit the idea of the good citizen expressly by the ideal of the good man. By citizenship we do not mean the kind of loyalty which never questions the accepted purposes of society. A society which leaves no place for criticism of its own aims and methods by its component members has no chance to correct its errors and ailments, no chance to advance to new and better forms, and will eventually stagnate, if not die. The quality of alert and aggressive individualism is essential to good citzenship; and the good society consists of individuals who are independent in outlook and think for themselves while also willing to subordinate their individual good to the common good.

But the problem of combining these two aims is one of the hardest tasks facing our society. The ideal of free inquiry is a precious heritage of Western culture; yet a measure of firm belief is surely part of the good life. A free society means toleration, which in turn comes from openness of mind. But freedom also presupposes conviction; a free choice — unless it be wholly arbitrary (and then it would not be free) — comes from belief and ultimately from principle. A free society, then, cherishes both toleration and conviction. Yet the two seem incompatible. If I am convinced of the truth of my views, on what grounds should I tolerate your views, which I believe to be false? The answer lies partly in my understanding of my limitations as a man. Such understanding is not only the expression of an intellectual humility but is a valid inference from the fact that wise men have made endless mistakes in the past. Furthermore, a belief which does not meet the challenge of criticism and dissent soon becomes inert, habitual, dead. Had there been no heterodoxies, the orthodox should have invented them. A belief which

is not envisaged as an answer to a problem is not a belief but a barren formula.

How far should we go in the direction of the open mind? Especially after the first World War, liberals were sometimes too distrustful of enthusiasm and were inclined to abstain from committing themselves as though there were something foolish, even shameful, in belief. Yet especially with youth, which is ardent and enthusiastic, open-mindedness without belief is apt to lead to the opposite extreme of fanaticism. We can all perhaps recall young people of our acquaintance who from a position of extreme skepticism, and indeed because of that position, fell an easy prey to fanatical gospels. It seems that nature abhors an intellectual vacuum. A measure of belief is necessary in order to preserve the quality of the open mind. If toleration is not to become nihilism, if conviction is not to become dogmatism, if criticism is not to become cynicism, each must have something of the other.

CHAPTER III

Problems of Diversity

I

Kinds of Difference

*FROM this high vantage point where knowledge, like an out-*spread landscape, looks harmonious and untroubled, we return in this chapter to a more usual and dimmer plane. The main upshot of all that has been said until now is so simple that any statement of it sounds almost absurdly flat. It is that, as Americans, we are necessarily both one and many, both a people following the same road to a joint future and a set of individuals following scattered roads as gifts and circumstances dictate. But though flat and truistic this double fact is the foundation of this report. Simple in itself, it is far from simple in its consequences. It means that, though common aims must bind together the whole educational system, there exists no one body of knowledge, no single system of instruction equally valid for every part of it. That is obviously true as regards special education, the thousand avenues of specific competence. But it is true even, though to a lesser extent, of general education. We have sketched what seem to us the traits of mind necessary for anything like a complete life in our society. We have described the facets of reality reflected in the different spheres of learning and together comprising what the human spirit can call truth (though we have left out, for reasons already given, what many consider the highest, most embracing sphere, that of religion, and our exposition may seem to fall short on that account). But – and here is the great difficulty – when it comes to fostering these traits of mind and presenting this view of truth, the immense variation

among students enters in, precluding any universal method. General education must accordingly be conceived less as a specific set of books to be read or courses to be given, than as a concern for certain goals of knowledge and outlook and an insistence that these goals be sought after by many means as intently as are those of specialism. That is not to say that some books and some subjects will not be commoner than others in all attempts to achieve general education; they will. Shakespeare's plays are more important than Jonson's; the speeches of Lincoln than those of Douglas. But it is to say that this search for a sound general education is as various and unending as the search for the good society itself and that there are many roads to Rome.

These points have been repeated at the risk of tiresomeness because, instead of going on as we shall in the next two chapters to discuss ways and means of carrying out general education, we wish to return here to the stubborn and crucial question of the difference between students. As was said earlier, there is always a tendency, which this report will not have escaped, to think of general education as a series of highly literate courses of the sort which necessarily appeal to the gifted and intellectual. So far as colleges and college-preparatory schools are concerned, that is right and proper. But the interests of such students can be overemphasized, as if the task of schools and colleges were (in the terms used earlier) wholly Jeffersonian and not Jacksonian also. The next two chapters will by their nature look largely to the first, the Jeffersonian side of education, but they would be badly out of focus if more were not first said of the second, Jacksonian side.

In days when only the favored went beyond grammar school this question of the differences between students hardly arose. The ordinary boy left school and went to work with his father or went West or went to sea or found a job in the community where people knew him, and the ordinary girl worked at home or near by. When industrialization began many of them drifted into the factories, with well-known results which provoked legislation against child labor and led to raising the school age. More lately, unemployment has tended to raise the age still further. In

1933, five million young people between sixteen and twenty-four – roughly a third of the whole group, including all those still being educated – were out of school but unemployed, and of these the younger were progressively the worse affected. The war has of course changed all this, but unless the fifty-five or sixty million jobs which have been estimated as necessary for full employment after the war in fact materialize, much the same conditions will recur, with the young feeling their impact first and most heavily. The cause is not wholly, or perhaps mainly, in a failure of our economic system. Thousands of lighter jobs which used to call for a brisk young pair of hands have simply ceased to exist, and the ordinary job calls for competence or stamina or both. The combined effect of these humanitarian and economic forces has been the staggering increase in enrollments discussed earlier. In many states nearly the whole population of high-school age is now in high school, and the same may presently be true of most states. Thus within a generation the problem of how best to meet this immense range of talent and need has grown up, like the fabled beanstalk, to overshadow virtually every other educational problem. It is in truth at the heart of any attempt to achieve education for democracy.

The professional word for the problem is "differentiation," a term applied to two main spheres: an inner sphere of ability and outlook and an outer sphere of opportunity. These two spheres are obviously to some unknown extent related. One cannot distinguish rigidly the conditions surrounding a child and creating the atmosphere in which he is brought up from the view of the world and of his destiny in it which he will unconsciously form. The fact is fundamental to the history of this country, even of the modern era. The welling up of talent and energy which has historically accompanied the decline of privilege and the rise of submerged classes has evidently been in large degree simply a release of powers suppressed or dormant until then. Long familiar here, this seems the basic process which has been taking place for a generation in Russia and which is said to be under way in the Middle East and East. It is the unfolding of potentiality to the sunlight of stimulus and self-respect. But on any short view, at

least, the process seems to have limits, likewise unknown, as regards both peoples and individuals. As to peoples, it has been argued that a release of the kind familiar here or during the Renaissance or in modern Russia works through only a minority of the people, a previously submerged fifth or fourth perhaps, leaving the rest relatively untouched, except, of course, as they are affected by the new conditions brought about by the former. Certainly every yeoman's son in Elizabethan England did not become a Shakespeare or even one who enjoyed Shakespeare; nor in this country was every frontier boy a Lincoln or one who understood Lincoln. Many must have remained almost untouched by the expansive atmosphere of those times, which yet produced such men. As regards individuals, the same limits show themselves. The best schools and most modern housing do not suddenly endue all the young people in them with high standards and good ability. Something like the old theological question of the perfectibility of man is involved here, and one can only say that, though people do in fact respond to outer conditions, which are therefore incalculably important, and though conditions have never been perfect (indeed, it is unknown what are perfect conditions for human growth) and consequently it is uncertain what their results would be, still the brute fact of human difference remains. All men are equal before God and the law and, if sane, are equally responsible for their acts, but they differ biologically and, even under the best conditions, would presumably strive for different ends.

Hence, though powerfully and subtly related, difference by ability and outlook on the one hand and by opportunity on the other are not the same. The former shows itself first in the actual range of performance by students in school. A group of representative thirteen-year-olds will show a span of some seven years in ability. About 5 per cent of them will be as bright as the average sixteen-year-old, another 5 per cent no brighter than a ten-year-old. At twenty a few will be capable of almost any intellectual task, others will not have progressed and may never progress beyond the mental age of eleven or twelve. The main criteria are vocabulary and the ability to deal with abstractions.

By fifteen an ordinary high-school student recognizes some ten to fifteen thousand words. Some know many more, others only a few thousand. More variable is their ability to attach meaning to words. Ideas like hardness, sweetness, cleanliness, fair play, have meaning for almost everyone. But more abstract concepts like demonstrative proof in geometry, generalized number in algebra, or hypothesis in science, and the more general ranges of such social ideas as justice and even democracy, ask an effort of mind of which many adolescents seem incapable and an equipment for thought which they appear to lack. A still higher stage of conceptualization such as transfinite numbers and the four-dimensional geometry of mathematicians exceeds the powers of most human beings.

These differences come into play in high school, making of it a kind of vast sorting machine separating students by ability. It must inevitably be such to some extent, but the purpose in trying to distinguish accidental from inborn qualities in young people is to make this sorting fairer and less harsh. Similarly, the purpose of general education is to assure that it shall not be guided by economic values only – but of this more presently. As it is, even by the ninth grade some 10 to 30 per cent of the school population has dropped back, and the average intelligence of the grade is therefore three or four points above the norm. The proportion which drops back depends upon the policy of the school. Even where students are promoted regularly in order that they may stay with others of their age, some of the duller ones are sure to be placed in "ungraded rooms" or to be otherwise kept from high school, though the number may be as low as 10 per cent. Other schools, by not promoting poor students, may keep back as many as 30 per cent. Thus the mental range of the high school as a whole covers from three fourths to nine tenths of the total range. The graduating class is more select, preponderantly above the lowest quarter. College in turn brings a new stage of selection, roughly the top quarter, though with exceptions. Those colleges which draw largely from a local population may admit from the upper half, though in that case many students will tend to drop out after a year or two. A few colleges draw chiefly

from the upper tenth. The mechanism by which this sifting takes place is of course the curriculum. Slower students can sometimes learn as much as the abler by taking more time; in other cases they simply fail to learn, at least under present methods and in a practicable time. Algebra was cited earlier as a subject in which, under the limitations just mentioned, perhaps a half of the ninth grade fails. Subjects which have a like effect in other grades are physics and chemistry, geometry, foreign language, economics if treated analytically, and those ranges of English and the social studies which also involve analysis. Colleges which reach below the top quarter in I.Q. either have somewhat lower standards or have consciously or unconsciously created new types of courses for the less gifted.

Intelligence is thus one ground of differentiation. Within what we have called the inner sphere of mind and outlook (as opposed to the outer sphere of opportunity), expectation is another. Here the distinction between the two spheres grows thinner. If vocabulary and the power to grasp abstractions to some extent reflect a person's background and early influences, his expectations do so far more. Many young people who are quite capable of doing college work do not go to college because they are too poor. That is an obvious lack of opportunity to which we shall come in a moment. But others equally able do not go on because they lack the desire. They tend to come from working-class families where no college tradition exists and even graduation from high school was rare until lately. Expectations must be learned; they are not inborn. If parents and relatives do not teach these young people to value education and the things to which it leads, who will? A teacher, perhaps, or pastor or, more rarely, an employer or older acquaintance — still more rarely, probably, reading or a movie. But usually they adopt their parents' expectations and the general color of their surroundings. If it is certain that many able but poor and otherwise handicapped young people look to education as a chance to better themselves, it is equally certain that many, perhaps more, do not.[1] Their

[1] See W. Lloyd Warner, Robert J. Havighurst, and Martin B. Loeb, *Who Shall Be Educated?* Harper and Brothers, 1944.

ambition is bounded by the world that they know, and to advance a step or two within it is enough.

Again, within this same inner sphere are differences of interest. There are the mechanical who like to work with their hands, and the meditative, often clumsy with their hands but quick at words and ideas. There are the literal, at home in everything exact, and the artistic, who see things intuitively and by symbols. These and similar differences apparently have little or nothing to do with background but run through all social classes. Yet they are of course fostered or repressed by background and even by the general character of an age. There seems no reason to believe that altogether exceptional artistic talent existed in ancient Greece or Renaissance Italy, or that scientific and executive gifts, to a degree far beyond all others, are inborn in Americans. Opportunity, rather, gives play to some gifts, repressing others, and a chief role of general education is precisely to check the too iron working of current forces, to the end of eliciting the varied powers innate in people, thereby enriching both them and the community.

Finally, there is a vastly important but equally obscure difference in will power and fidelity to purpose. Even the best intellectual gifts come to little without this virtue, and less than the best gifts may go far with it. How will power is related to background is most uncertain. Neither extreme privilege nor extreme lack of privilege seems conducive to it, though an occasional person has conspicuously shown it in spite of — or perhaps, in some subtle way, because of — these handicaps. On the other hand, it is certainly not a random gift of the gods; otherwise, it would not have marked so high a proportion of people in certain groups and nations throughout history. It seems to have something to do with a combination of clear standards and hard but not impossible demands. As Herodotus makes a king of Sparta say, "Poverty has always been native to Greece, but virtue has been acquired, the creation of thought and firm custom." But whatever its origin, this quality of will power is something different from intelligence, though in the long run it may help it. Hence any test of intelligence gives very

incomplete grounds for judging a person, particularly a young person in his changing years, and knowledge thus gained must be augmented by some test of actual accomplishment and by the judgment of teachers. Nowhere is the insight of a good teacher so indispensable as in holding students to their best and in setting for each work matched to both his gifts and his will. If to deal successfully with any of the differences so far noted calls for much experience and small enough classes so that teachers can know their pupils, that is supremely the case in this all-important and entirely personal, unmechanical task of nurturing and judging character.

So much for the inner sphere of mind and outlook. To turn now to the outer sphere of opportunity, it is clear from what has been said that equal opportunity does not mean identical provisions for all. Rather, it means access for all to those avenues of education which match their gifts and interests. That obviously includes access to good schooling through college and graduate school for all young people of the requisite will and ability, regardless of their means. Here we are back at what was called earlier the main task of our educational system: to nurture ability while raising the average. But before returning to that question it is worth trying to judge in some rough way the size and complexity of the task. The sources of unequal opportunity are of two kinds, socio-economic and geographical, and we shall say a few words of each.

The extent to which means determine opportunity appears from several studies which have been made in small cities of New England, the South, and the Middle West. The population of each city was sorted into several groups, and the education of the children of each group was then compared. There were relatively slight differences from one section of the country to the other. The following broad categories emerged:

(a) The upper group as regards income sends nearly all its children through high school, public or private, and about 90 per cent to college. These are professional people, owners, managers, and persons living on inherited money. Practically all of them can afford

to send their children to college, but they produce only some 8 per cent of the children of the community.

(b) The middle group as regards income sends about 60 per cent of its children through high school and about 15 per cent to college or some other higher institution. They are small businessmen, clerical and other office workers, minor professional people, foremen and a few skilled workers. They produce about a third of the children in the community. Many of these young people aspire to positions above those of their parents, and for them high school and, more rarely, college are roads to this goal. While a good number of them have excellent native ability, their parents cannot afford to send them to college, and they must look to scholarships and part-time employment if they go. The presence of a tuition-free college near by makes their going more likely.

(c) The lower group sends about 30 per cent of its children through high school and about 5 per cent through college. It comprises the great majority of workers, skilled, semiskilled, and unskilled. They are the poor. They produce about 60 per cent of the children of the community. It is usually a sacrifice for them to keep their children in high school, and they cannot possibly pay money toward college. The minority of young people from this group who finish high school are often ambitious for better things. They take commercial and other vocational courses, hoping for more security and a higher income than their fathers knew. But there is usually a limit to their hopes. Most of them will be satisfied with a step up to a slightly higher income, and the very few who aspire to college must work their way without help from home.

Thus it appears that from the middle and lower groups, containing more than 90 per cent of the children, very many boys and girls – roughly a half of the whole number – drop out of high school and very few go on to college. One may then ask how much ability is lost. How many young people able to do good college work do not reach college? A rough answer is possible on the assumption, generally accepted by college admissions officers, that the top 20 to 25 per cent of the total group can succeed in an average liberal college. This represents an I.Q. of 110 and above. From a study [2] of young people of this intelligence made in Pennsylvania in 1936, it was found that 57 per cent of those whose means were above average went to col-

[2] Harlan Updegraff, *Inventory of Youth in Pennsylvania.* American Council on Education, 1936. (Mimeographed.)

lege, but only 13 per cent of those whose means were below average. Now the whole latter group (that is, those with I.Q. 110 or above but below-average means, whether or not they went to college) is about 11 per cent of the total age group. The 13 per cent of them who went to college thus represent about one and one-half per cent of the total, leaving more than 9 per cent of the boys and girls in Pennsylvania who were of college caliber but of below-average means and who did not go to college. These findings are confirmed by a study of a still abler group[3] — all of the highest 10 per cent in intelligence, of I.Q. 116 and over — who graduated from Milwaukee high schools in 1937 and 1938. Sixty-three per cent of them came from families whose income was under three thousand dollars and did not go to college. That is, over 6 per cent of the total age group had excellent ability but did not go to college for reasons which were at least partly financial.

These estimates give reason for saying that out of every one hundred young people between six and nine are good college material but do not reach college. This group is as large, or nearly so, as the entire body of students now in college. They are prevented by either or both of two causes: lack of means or lack of desire. Something has been said of those who are able enough but do not want further education. In a sense they are denied it by hostile surroundings. But not a great deal can be done for them by the time that they reach high school, though something may yet be done by inspiring teachers. How many of them are there? What is the division, among able young people who do not go to college, between those who would go if they could, and those who would not? On the basis of very slender evidence noted earlier,[4] it appears about equal. If so, 3 to 5 per cent of our young people — annually some seventy-five to one hundred and twenty-five thousand — are of college caliber and would go to college if they could but are prevented by poverty.

[3] Helen B. Goetsch, *Parental Income and College Opportunities*, Teachers College, Columbia University, *Contributions to Education*, no. 795, 1940.

[4] See note on page 84.

Here, then, is a wide lack of opportunity, and similar lacks must be noted among the progressively less gifted. We have spoken so far only of the upper quarter in ability. But young people of average intelligence, though not suited for the traditional college, can yet profit from training in agriculture or nursing and from many kinds of courses, largely vocational, offered by junior colleges and technical institutes. It is evidently as important for their welfare and that of society that they make the best of themselves as that the more gifted do so. Hence the estimate just made of the numbers who deserve and wish but cannot afford education beyond high school must be enlarged, probably more than doubled, to include this group. And there are financial limitations even on high school. It was noted earlier that only a third of the children from the lower income group, itself three fifths of the population, now graduate. To put it otherwise, in 1940 about 60 per cent of all our young people were in high school at sixteen and about 45 per cent at eighteen. Assuming as a rough guess that the lowest fifth in intelligence would not profit beyond sixteen from the present-day high school, that still leaves 20 per cent at sixteen and 35 per cent at eighteen who could have profited but did not stay. Some of them live in isolated places far from a high school; others are farmers' children who expect to live on the farm. Still others frankly prefer the immediate advantages of work and wages to the more distant returns from education. Nevertheless, very many would certainly continue in high school if they could afford the cash cost and if their parents did not need their earnings. The cost of high school is higher than is commonly realized — about ninety dollars a year by a recent estimate, with variations according to the size of communities and the age of students. The money goes for clothing, athletic equipment, class dues, lunch, and various other purposes which loom large in the life of adolescents. How many of the 35 per cent just estimated as not finishing high school though intelligent enough to do so were thus prevented by lack of money or by their parents' need? It is impossible to say — surely a sizable proportion.

Such, in very broad terms, are the limits now imposed on edu-

cation by means and social status. These estimates have been based on prewar incomes, and if real incomes should rise after the war for the poor, opportunity would likewise rise. If, further, the social environment of these young people should improve materially, more of them would almost certainly show higher promise. There is experimental evidence that ability can be improved as a child's early surroundings are improved – evidence which, as was said, the growth and spread of talent which have accompanied the decline of privilege in the modern era tends to confirm. After all, even the most embracing modern school touches only part of a young person's life; there remain the shaping years of infancy and the steady pressure of surroundings.

Is this slow process of social change the only hope of improvement? Certainly it is the main hope. One can of course make the trite, though always tragic, reply that to subsidize all those just estimated as not reaching college or junior college or finishing high school, though able and eager to do so, would cost only what is being spent on the war every few days. But it is also true that schools and colleges have still other needs: higher salaries, smaller classes, means of helping those who do not profit beyond a certain point from books, adult education – above all, perhaps, a more rounded, longer, more continuing education of teachers. Short of the millennium, these claims will conflict, and the only hope of keeping one's bearings is to hold firmly in mind the final purpose of all education: to improve the average and speed the able while holding common goals before each. Subsidies tend to favor the able, while a general improvement of the school system favors all. Certainly funds can be quite as justly claimed for the latter purpose as for the former. Although subsidies are one, they are only one way of improving opportunity. It is even dangerous to think of them as apart from other ways. The current movement to find and support promising young scientists, however worthy, could be ruinous if it created the impression that science, or any other one specialty, is enough even for these young people, much less for our potential leaders. Leadership is inseparable from its following, and both from com-

mon standards. Subsidy must therefore be carried only so far as neither to breed overspecialism nor to turn men's eyes from that broader education (broader, that is, as respects both content and those whom it reaches) through which alone is specialism healthy and leadership possible.

Finally, opportunity is also conditioned by geography, by the region in which a child happens to be born. Statistics on the very unequal sums spent per pupil and per teacher in the various states, a disparity which in turn reflects the very unequal resources of these states, were given in the first chapter and need not be restated here. Suffice it to say that as much as a fivefold difference (not in total but, to repeat, in expenditure per pupil) exists between a number of states, a difference by no means wholly canceled by the lower cost of living in the South as contrasted to the Northeast. The ironic fact was also noted that, the birth rate being higher in the country than in the city, the poorer states, which are largely rural, have with their smaller means a higher proportion of children to educate. This double burden of less money and more children has shown itself in generally poorer facilities and lower attendance. In 1939, of the ages fourteen through eighteen, 392 in 1000 went to high school in Mississippi, 952 in Washington. Seven states, of the rural South and rural Great Plains, had fewer than 500 in 1000 enrolled, while ten states, of the urban North and West, had more than 800. Add the crowning irony that these states of least wealth and largest families, after educating their children at their own expense, lose about half of them to the urban and industrial states which do not reproduce themselves, and it is clear that a good deal less than justice is to be found in our present system. As said earlier, the solution clearly lies in some form of federal support of education which will at once help the poorer states maintain standards more nearly equal those of their richer neighbors, yet leave to all states their present responsibility. The founding fathers hardly foresaw that, in reserving education as a responsibility of the states, they were bequeathing this heritage of inequality. Yet as the states became unequal in their ability to support education such in fact has been the result.

2

Unity Conditioned by Difference

THESE differences then – of mind and outlook on the one hand, and of opportunity on the other – make the tasks, present and future, of our schools and colleges almost unimaginably varied. The deductions to be drawn from any such overview are fairly clear as regards special education. At least the overwhelming response to this variety of gifts and interests has been to recognize the need for a nearly equal variety of means for turning them to account. There has ensued the vast diversification, already dwelt on, of schools and colleges and of courses within them – surely a desirable, an inevitable step. That is not to say that much does not remain to be done in this quarter. Far better guidance and testing are clearly a first necessity since, if students have different aptitudes, everything obviously depends on discovering what these are and on placing them where they can be developed. Again, the relationship of special to general education needs far more thought. There is patent shortsightedness in turning out students equipped with this or that skill yet defective, say, in English, the basic means by which most skills come into play. But good speech and good writing are not learned in a few years and from a few courses. They develop as the whole mind develops, hence must be cultivated within and through special education. And the same is true not only of the power to communicate but of the other abilities discussed in the previous chapter. To recognize difference and to try to capitalize on it by special training is not to escape more general and fundamental duties, even within this special training. And there remains the never-ending task of opening new avenues to the underprivileged and of awakening them to gifts repressed by circumstance which they hardly know they have. (In Mark Twain's amusing *Captain Stormfield's Visit to Heaven*, the greatest potential poet in history – duly recognized as such in

paradise, though only in paradise – proves to have been a poor tailor from Tennessee who was laughed at in his village and never published a line.) This is as much a social as an educational task, to be solved, if at all, by the richness and variety of stimulus in American life as a whole.

But these are not the main questions of this report. What deductions, rather, about general education are to be drawn from these facts? In view of these wide and deep differences, is a truly general education possible? We shall conclude by stating two broad propositions and then by sketching what seems to us the role of general education as conditioned by difference.

The first proposition is at once a confession and a question – a confession of ignorance and a question calling for answer. The line of reasoning in this report so far has been briefly this. First, our national life and, more broadly, our culture do in fact predicate certain traits of mind and ways of looking at man and the world. Second, these traits and outlooks embrace both heritage and change, which in turn correspond, though not exactly and certainly in no wooden, perfunctory way, to general and special education, the one concerned with the more slowly changing relationships within knowledge as a whole, the other with its more quickly changing parts. Third, a successful democracy (successful, that is, not merely as a system of government but, as democracy must be, in part as a spiritual ideal) demands that these traits and outlooks be shared so far as possible among all the people, not *merely among a privileged few. But, fourth, there exist in fact* great differences among people, not only of opportunity, which have been and can be improved, but of gifts and interests, which either cannot be improved so quickly or, in the case of interests, are and should ideally be varied. Our ignorance, which seems to us a widespread ignorance, and our question, which is the question of the nation and age, follow these four steps as a fifth. *It is, how can general education be so adapted to different ages and, above all, differing abilities and outlooks, that it can appeal deeply to each, yet remain in goal and essential teaching the same for all?* The answer to this question, it seems not too much to say, is the key to anything like complete democracy.

As repeatedly said, in so far as our culture embraces a spirit of change and novelty, and in so far as special training, by equipping students with a thousand new skills, looks to this spirit of change, then our present diversified system fulfills in part the commands of democracy. But in so far as our culture is not wholly dedicated to novelty, as it certainly is not, but on the contrary rests on a view of the world and of man slowly built up, though never completed, over centuries, then our system by its very variety also slights the commands of democracy. The problem, then, to repeat, is not merely to foster the skills and outlooks which divide man from man according to their special gifts and different destinies but to develop also the traits and understandings which they must have in common despite their differences.

Though we do not know the answer to this question, we would venture a few remarks about it. First, as said earlier, it cannot be one over-all solution, since the whole problem is precisely to reach differently gifted students of different ages and hopes. Further, it will be comparatively easy to reach the gifted and favored. The next chapter will be largely about them, the following wholly. They are the Jeffersonians, those who learn well in high school and many of whom go on to college. It is of course debatable what is the best general education for them. Our views on the subject may not find favor; certainly there are other current views. But, with time, some agreement, doubtless embracing many minor variations, would seem possible. After all, these are very gifted students, and it is hard to see how, given an experimental spirit and a serious will toward general education, one can go far wrong. What we have said and shall say about the facets of modern knowledge and the traits of effective thought is nothing new and, probably, on main points at least, nothing controversial. Thus the chief problem is not to discover the right general education for these able young people but for the less gifted — not for those who go to college and to academic and technical high schools (however great an effort toward general education is needed in all three) but for the great majority in other courses, those who are in those courses precisely because

of their lower facility with ideas. As was said in the first chapter, they are the people whom the totalitarian states have regimented. Yet democracy imposes on them, as on all, the task of responsible private judgment, and it is for the schools to fit them for this task by every possible means.

The efficacy of mere courses for these students seems doubtful, but needless to say courses are important. They must not be simply watered-down versions of more complex courses but authentic and fresh vehicles of the spheres of general education — the world, man's social life, the realm of imagination and ideal — designed to implant the power of thought and expression, the sense of relevance and value. They must avoid the extremes either of talking down to students or of dazing them with abstractions. They must make increasing use of what appeals directly to the senses and clothes ideas with warmth — movies, singing, plays — yet never to the neglect of reading and discussion. They must grasp the nettle of simplifying the great writings of our culture in such a way that they shall become a common possession, a subject to which we shall return in the next chapter. Again, since the whole rise of vocational and manual courses has come about not primarily to train young people for jobs but as a means of reaching them through what they respect and think real, the carrying over of general education into these subjects has special importance. Students whom ideas will hardly touch will yet feel them in more specific forms — mathematics when it turns up in some mechanical task, history when it touches some trade, design when it is a part of making, and speech and clearness of mind running through all. Hence follows the need already expressed for devoted and broadly educated teachers of these subjects, who will teach them with these higher ends in view.

Further still, the whole life of the school must be such as to embody these higher ends. If some students will learn of democracy, for instance, partly through reading, all — and the less gifted especially — must learn of it also through action and by example. It has been said that one of the challenges of our age is so to rouse in students the sense of connection between ideas and

day-to-day action that their wills will be enlisted for what their minds accept, and for none has this point more importance than for those who see life primarily as action. Finally, when one reflects that great numbers of these young people have been unemployed if they left school, yet, if they stayed in school, have been exposed to a bookishness on which they did not thrive – and when one thinks further of the number of local and national projects which need doing – it seems that there must be some sound way of connecting these two needs. The C.C.C. of course attempted some such thing, but without tie with the schools, at great expense, and without great educational success. In many cities schemes of part-time work in local industries have been worked out but always with the danger that the good of the students shall come second and that the school shall sink into a kind of serf of industry. There seems place, then, for a system of projects, largely local, on which students might work under guidance and for pay until they can be employed full time. No doubt such a system would be resisted either as socialistic or as infringing on organized labor. We realize its possible dangers – dangers like those which face our society at every turn: of frustration and human waste if nothing is done, of regimentation and state control if too much is done. Yet now that nearly everyone goes to high school the problem of these less gifted young people must be faced. It must not be faced condescendingly. The record of such people over history – the simple-hearted, those who have done the unobserved work of the world – is certainly at least as good as that of their more gifted – and more tempted – brethren. They are as worthy and as valuable democratic citizens as anyone else. The problem is to educate them by exactly the same ideals of schooling as everyone else, yet by means which shall be as meaningful to them as are more abstract means to the more abstract-minded.

Our second general proposition can be stated more briefly. It has to do with the whole spirit and purpose of general, as opposed to special, education. Special education, by equipping people for certain specific tasks, is the more competitive in spirit and looks the more directly to worldly success. Or at least, to most students

and probably to most adults, it seems to do so. To know how to do something is to put your foot in the door, to have a possible start in life. Once you are inside the door, to be sure, more imponderable qualities, of judgment and understanding, of perspective and character – qualities more akin to those of general education – come into play, and the more important the job the more importantly they come into play. Nevertheless, at first glance technical competence seems by far the first requisite for advancing yourself, and on any view it is at least a chief requisite. It therefore follows that an education not wholly given to technical competence is an education not wholly looking to worldly success. There is no escaping that conclusion, nor on a moment's thought should there be desire to escape it. No society can be organized simply for the advancement of the fittest or, in the more polite modern term, for mobility. If it were, it would cease to be a society in the sense of Aristotle's famous definition: "The state originates in the need for subsistence; it continues through the wish for the good life." In so far as society looks to the good life, then it has common aims, the inculcation of which is at least as important a task of education as the furtherance of this or that individual. Ideally, indeed, the success of an individual is meaningless or harmful except as it is the mark of his superior service to the common good. In any case, competition and the common good both have place in education, and though here again there is no exact equivalence of the one to special and the other to general education, still it is clear that general education does represent a force in the curriculum, and ultimately in society, which is not in the main competitive.

This point, finally, has bearing on the diverse interests of students noted earlier: bents for mechanics, for the arts, for ideas, for literal fact, or in a thousand other directions. It was said that these bents appear to be inborn in people independently of background and walk in life, but that they are nevertheless drawn forth or repressed by background and even by the spirit of an age. If, then, general education does not reflect the competitiveness of current life, neither should it reflect the narrowing of potential gifts which competitiveness enforces. On the contrary, it

should strive to enrich society by freeing the full scope of people's native gifts. No doubt there are limits to this giving of scope. The very idea of a common body of training and knowledge means that everyone, irrespective of his bent, owes a duty to his general sharing in the culture and to his membership in society. But some students will inevitably feel more drawn to some sides of their studies and others to others, and over and above the core of commonness, there should be chances for all to perfect what is in them. This need will prescribe the scheme of general education now to be set forth. An ideal but not impossible vision of American society might see it as made up of myriad smaller societies representing between them all the arts and insights, all the duties and self-dedications, of civilized man. It would be in order that they might participate in some of these, quite as much as for making a living, that education would prepare young people, and this participation would in turn be the door to the good life.

3

Basic Plan for the Schools

IT therefore remains only to draw the scheme of general education that follows from these premises. At the center of it, at school and again at college, would be the three inevitable areas of man's life and knowledge which were sketched in the previous chapter and will be discussed in detail in the next: the physical world, man's corporate life, his inner visions and standards. That these should be taken up at school and again at college seems to us to follow both from their importance and from the quick growth of students in these years. But if so, the duty will rest on colleges to find ways of treating these great themes which will build on rather than duplicate what the schools have done. Exactly that, in effect, was argued in the previous chapter when it was said that, if these three areas differ not only in subject matter but in the values to which they look and in the methods which they follow, then mere encyclopedism is not enough, and the

only adequate treatment of them will be one which concerns itself with values and methods quite as much as with facts. In other words, college courses on these subjects must be partly philosophic if they are to deal not only with information but with kinds of truth (e.g. the values and norms of literature as contrasted to the demonstrable truth of science). The same holds of course to some extent for schools, and no teacher can shake the responsibility of making very clear what is involved in judgment and value on the one hand, and in fact and measurement on the other. But schools have, after all, a huge task of plain exposition to perform if students are to have in their hands the main tools and elements of knowledge, and, instead of repeating this work, colleges should move on to new relationships and new stages of understanding.

In school, in our opinion, general education in these three areas should form a continuing core for all, taking up at least half a student's time. That does not mean that all should have exactly the same courses. In the present high school there is a great difference between general mathematics and algebra, between English as studied by commercial students and English in a college-preparatory course, and what has been said of the range of ability among students justifies this distinction. But just here applies what was also said about the crucial need for new and authentic treatments of these great subjects, not simply waterings-down of harder courses, for the less able. Here, to repeat, is the basic question facing our school system, and on its success in answering this question the wider success of general education, as a bond between all future citizens and all sharers of the common culture, will largely depend. It can be objected that an education which is not shared by all exactly in the same way is not a truly common education. This objection has some force, since sharing of experience is certainly, within limits, an ideal of all education, notably in a democracy. Yet, if thoroughly carried out, this ideal would be disastrous. It would mean that in general education, and only in general education, would the quick and the slow be thrown helter-skelter together, the ones held back, the others forced beyond their speed, and neither satisfied. The

ideal of commonness must therefore show itself chiefly in a common requirement rather than in a common way of carrying it out. There must be courses of different difficulty and different method in each of the three spheres of general education, and the criterion for membership in these should be neither a student's intentions in life nor his background nor the kind of diploma for which he is aiming, but simply whether or not a given course is the best for him – which is to say, a criterion of ability. Extracurricular activities and the general atmosphere of the school, both important for general education, are perhaps the only truly identical experiences, but even these will be stronger when they rest on common aims of study.

It was said that this core of general education should, in our view, take up about half a student's time in school. Accepting the course-unit system as established, at least for the present, despite its grave weaknesses dwelt on earlier, that would amount to some eight units, preferably spaced by means of half-courses over the four years of school rather than compressed into two or three. The common and desirable division within these eight units would probably be three in English, three in science and mathematics, and two in the social studies. But – and this is the important point – this half of the schoolwork to be spent on general education would seem the barest minimum, either for those not going on to college or for those who are. For the former, who will be ending their formal education, another course in each of the three areas seems nothing short of essential, and for the latter, who are going on, a deeper knowledge of one or more of the areas is not less so. Since this view is somewhat at variance with current practice, it calls for a word of explanation.

If colleges increasingly take up the duty of general education, as it seems that they must, then those who go on to college will encounter it again there and at a higher and more complex stage. They will also commonly choose and follow at college some special field, and both for that reason and because even general education at college should draw from deeper roots, they must begin to lay down these roots in school. For example, general – quite apart from special – education in literature will mean more at

college to those who have studied a foreign literature. A few perhaps, gifted themselves and sped by their families, may go equally far at school beyond the common minimum in all the three areas of general education. But most will presumably carry further one or preferably two of them, the scientifically-minded, for instance, going ahead to advanced courses in science and mathematics, the humanistic and literary laying a foundation in languages. More will be said in the next chapter on this parting of the ways beyond the common and shared core of general education. Were it not for the course-unit system, it might be possible for more of those going to college to carry forward, as students do in Continental schools, all their subjects on a common front, though natural interest no doubt inevitably enters in and, under any system, some would prefer and carry further some subjects and others others. As it is — not only through the system and from natural interest but through the growth of knowledge itself — some pointing seems inevitable, and the wise scheme of schooling for those who go to college would seem one which, in some ways, resembles the scheme which we propose for college itself: a core of common studies strengthened by more advanced work on one or more sides. But in school, needless to say, these further studies should be less specialized than at college. We have argued from the start against a narrow specialism and feel its dangers in schools particularly. Ideally, to be sure, college and even graduate specialism is only an extension along one avenue of the general aims of all education. But at school that should be transparently the case, and whether in the common core or beyond it no course should lack that relevance to knowledge beyond its own limits which is the hallmark of all right education.

Those, on the other hand, who will enter active life from high school will doubtless not often press on to this advanced work beyond the common core, and we have urged for them another course in each of the areas of general education. Foreign language, for instance, though necessary for much of college work, is surely of far less use to these young people than music or the arts or more English or more study of American life, and ad-

vanced mathematics is probably likewise of less use than more general science. If they do this added work in general education, something like a third of their high-school courses will still remain. General education can be compared to the trunk of a tree from which branches, representing specialism, go off at different heights, at high school or junior college or college or graduate school – the points, that is, at which various groups end their formal schooling. It seems an axiom of education in this age that, as they are about to enter active life, each group should be prepared for it in some special ways. The third of their high-school courses remaining beyond general education would then represent that special training for these young people. Here would be the chance for vocational and business courses, for work in the arts, for agriculture and home economics and a thousand other practical fields. As said many times, even these courses are not wholly vocational in intent, nor is the break complete between them and general education. On the contrary, they should carry forward the spirit of it into these realms and for these young people, exactly as does further mathematics or language for those who are going to college.

To change the earlier figure, general education at high school is like the palm of a hand, the five fingers of which are as many kinds of special interest – mathematics and science, literature and language, society and social studies, the arts, the vocations. These fingers would stretch for all beyond the common core, and all would follow one or more than one. If, as urged earlier, actual work comes to take its place, for some, as a part of high school, that would be, illogically, yet a sixth finger. All, then, whatever their future intentions, would have the binding experience of the common core; and all would follow some field of special interest. Here, then, too broadly sketched to convey the warmth and color of actuality, is a scheme which accepts the claims of a common culture, citizenship, and standard of human good, yet also the competing claims of diverse interests, gifts, and hopes. Certainly some such scheme cannot be absent from American education if it is to produce at one and the same time sound people and a sound society.

CHAPTER IV

Areas of General Education; the Secondary Schools

I

Mark Hopkins and the Log

WE come at last to the heart of the subject, the curriculum. It has been a long road, though, even as it is, we have pushed like hardened tourists through much that mutely asked for delay, and we have left out much. When every question is inexhaustible, it is hard to keep a sense of proportion. But whether too long or too short, these preliminary chapters have served, or were meant to serve, a strictly necessary purpose. It is fruitless to think about any such practical step as a curriculum without having in mind specifications or points of reference, in this case the ends toward which the curriculum should look and the students for whom it is intended. It is these two points of reference that we have tried to establish so far. The first is a view of society as depending on both heritage and change. The second is a view of students as both united and divided: united, as heirs of a common past and agents in a joint future; divided, as varying in gifts, interests, and hopes. From these premises comes an idea of education as, for all and at all stages beyond the earliest, both general and special. These two sides of education should be thought of as connected, the special forever flowing out of the general and forever returning to and enriching it. Certainly their separation maims and impoverishes each, since higher and more universal relationships are empty except as they bear on particulars, and particulars in turn run to chaos and conflict unless they find place in a larger whole.

Because we have felt this need of connection between what is or should be common among human beings and what is particular to each, we have been unwilling to lay down rigid rules for general education. We take, so to speak, a middle position in the Mark Hopkins-student-log debate. To talk only of Mark Hopkins is to assume that all you need for a sound education is the inspiration and guidance of a gifted teacher, whatever he may teach. Few persons in our society play so indispensable a part as the instructor who is able to kindle in students a zeal for those qualities which education at its best represents and reflects. There is no educational reform so important as the improvement of teaching. But indispensable as the good teacher may be, it by no means follows that what he teaches is irrelevant. He is only the mouthpiece of the truth that speaks through him, and his value ultimately depends on how complete this truth is as judged by the only standards by which it can be judged: namely, the traditions of our nation and culture.

The other extreme is to think only of the log (here used, somewhat freely, to mean the subject) and to say that, on the contrary, it is Mark Hopkins who is irrelevant since only the truth counts. This position we equally reject. That is, even as we believe that some subjects are more important and more universal than others, so we believe that they may legitimately be taught in different ways — not only by different teachers but also by different institutions. This belief follows from the apparently certain fact that the human mind is fallible and that no person or institution accordingly has a patent on the truth. It follows also from the differences among students and from the consequent necessity that teaching, like the art that it is, cope with these differences. There thus devolves on teaching the double duty of setting forth a truth that is usable, in the sense of being adapted to students, and honest, in the sense of springing from inner integrity. And in this duty lies the work of all Mark Hopkinses, as responsible yet forever unique and individual interpreters of the common truth.

At bottom education is society perpetuating its spirit and inner form in a new generation. The Mark Hopkins-student-log

debate is therefore only the debate of society as to its own nature. The position which we have taken is our answer to what seems to us the crucial point in the debate: the question, namely, how far a free society must accept and inculcate common standards.

The question comes down finally to a definition of freedom. We believe that men are not in any genuine sense free to choose unless the fullest possible truth is presented to them. That is to say, freedom is not permission to flout the truth but to regulate your life in knowledge of it. One who has not learned and does not follow the laws of health is not free to be well, nor if he knows nothing of society is he free to be useful and happy in it. This view of freedom as willing acceptance of truth has its parallel in religion, finding expression in such time-honored phrases as "in Whose service is perfect freedom." Yet if pressed to a conclusion, this very view leads to the paradox of a completely prescribed education – to the denial of freedom in the name and for the purpose of freedom. Authoritarians do not find this paradox illogical, but the great majority of persons, we think, suspect with us that it is illogical. What are the grounds of this suspicion? They seem to be two: that the truth is not wholly known and that, even if it were, human nature is too fallible to justify any group of persons having power enough to prescribe rigorously the form of education. Democracy, however much it may imply trust in human nature, implies also suspicion of it. The system of checks and balances in the Constitution is designed to prevent control by any one group, and the Bill of Rights protects the freedom to dissent. Both reflect the belief that the knowledge of any one group, however wise, is limited, and that room must therefore remain for correction and compromise. Yet since this view in turn, if pressed to a conclusion, would make of truth a purely relative matter and thereby take from society the possibility of any common standards, it too leads finally to paradox and illogic. We therefore recognize the impossibility of either extreme. Freedom is submission to the best and fullest truth that can be known; yet it is also recognition that truth is not fully known. This is the position described in Chapter II

under the terms heritage and change. It makes place for both the log and Mark Hopkins, resting basically on the belief that our society and culture have indeed laid hold on common truths, knowledge of which is necessary for anything like a good and useful life, yet that, since our hold on truth is incomplete, we must forever look to new insights leading to change.

Our argument, then, is that knowledge is dangerous and illiberal if it does not embrace as fully as possible the mainsprings of our culture. We do not believe, for example, that education can safely be left with those who see our culture solely through the eyes of formal religion. Neither do we think this culture wholly reflected in any one list of great books, which, important as they may be in setting forth standards, necessarily neglect the relevance of these standards to the present. But we are equally suspicious of those empiricists who believe the truth is to be found only in experiment, a position that finally implies the denial of any stable truth. Without denying the partial value of any of these views, we believe rather that the main task of education is to interpret at all stages both the general and the particular — both the common sphere of truth and the specific avenues of growth and change. And though the very existence of a free society depends, we believe, on some balance being kept between these two opposite sides of education, differences in carrying each out are not only legitimate but desirable.

These views prescribe the nature of this chapter. Believing in this need for variation, we should have refused, even if we had been able, to prescribe in detail what high schools should teach as general education. On the other hand, simply to state general principles would be to leave our meaning unclear and to fail of whatever useful suggestions we are capable of giving. We shall therefore now go through the areas of general education already sketched, restating why they seem to us imperative and describing what, in our opinion, is of first importance in each. Such an arrangement produces roughly the structure of a railroad train, car hitched after car, for which apology is offered. It runs the more serious risk of creating false impressions. Laziness always seeks some simplifying image, seeing the areas of knowledge

merely as aspects, three sides of a box, or as ingredients — so much cream, so much sugar, so much coffee to be mixed in a cup. But there is no safe image for the full growth of the human mind. Neither the sciences, nor the social studies, nor the humanities have to do exclusively with one side of its growth. All overlap and are interfused, however great may be the aptitudes and opportunities which each singly possesses. We have described their interrelation; now we shall describe them separately.

2

The Humanities

ENGLISH. One need not make the altogether excessive claim that the humanities are the whole of either liberal or general education in order to recognize their central importance. If we recommend that the study of literature continue through the four years of secondary school (though possibly not as a major or full-time subject in each year), we do not mean that literature is the only one of the humanistic studies which is legitimately part of the secondary curriculum. We do suggest that it is, for those years, the central humanistic study — that it offers peculiar opportunities for achieving the goals previously set forth. The first of these opportunities is direct access to the potentialities and norms of living as they are presented to the mental eye by the best authors. All the other aims in the teaching of literature are subordinate to this. All work in literature should be concerned chiefly with making these visions accessible. When they are seen, when the words open to the reader, the teacher's task is performed. Unless this direct view is to some considerable degree achieved, we have failed. Above all we must beware of getting in the light, between the work and the reader. Summaries or restatements of what the masters were trying to say are often worse than useless. They can be mere dust in the learner's eye.

A natural doubt thus rises at the start. If by "the best authors" we mean the best, rather than good contemporary writing, or

writing aimed expressly at different mental stages, or otherwise tempered to assumed limitations of experience in the readers, are not those "best authors" too hard – too hard, that is, for school study under present conditions, large classes, lack of relevant background, teaching power, and the rest? The doubt is reasonable as well as natural. The greatest work stretches any mind. For young minds the stretching may never begin or it may be of the wrong sort. Questions of differentiation obviously enter. We should not sacrifice the interests of the many to those of the few. Nonetheless, it is legitimate to consider first what would be best for those most able to profit, making then what modifications are required to suit the needs of others.

The root argument for using, wherever possible, great works in literature courses is briefly this: ours is at present a centrifugal culture in extreme need of unifying forces. We are in real danger, as the discussion in Chapter II has shown, of losing touch with the human past and therefore with one another. The remedy is not in more knowledge about the past. That has been piled up as such knowledge never was for any former generation. Its sudden, all but overwhelming, increase is one of our chief difficulties. The humanities as recently as the sixteenth century were a compact and compassable literature. They cover now not only all literature, philosophy, music, but also "anything that has anything to do with anything in the Metropolitan Museum," and have thereby ceased to be the bond and covenant between men that they once were. Not even the great scholar can any longer see the human story steadily or whole, and the epitome confronts the rest of us. As Shelley said, "Epitomes are the moths of just history; they eat the poetry out of it," and the poetry is our need. It is through the poetry, the imaginative understanding of things in common, that minds most deeply and essentially meet. Therefore the books – whether in verse or prose, whether epic, drama, narrative, or philosophy – which have been the great meeting points and have most influenced the men who in turn have influenced others are those we can least afford to neglect, if ways can be found of opening better access to them. It is a safe assumption that a work which has delighted and in-

structed many generations of ordinary readers and been to them a common possession, enriching and enriched, is to be preferred to a product which is on its way to limbo and will not link together even two school generations. On the question of difficulty, it is relevant to refer to Mr. Whitehead's dictum in *Aims of Education*, "If it were easy the book ought to be burned, for it cannot be educational."

Difficulty, of course, is mainly a matter of the preliminary steps, and we must always ask whether these steps are of the right kind as well as degree. The choice of early reading matter and its grading is, to be sure, a vast and downtrodden topic. We may note only three points for comment:

Under-grading. With a view to "establishing the reading habit" great numbers of lower-level texts are now written in words and constructions which exact no reading effort from the learner, beyond his endurance of verbal boredom, and offer him in content nothing whatever to strengthen his mental bite. Is it any wonder that he is at a loss later when he meets sentences which are trying to say something worth saying?

Sub-English. Great numbers of texts in literature, history, social studies, and science, pored over through interminable classroom hours, are written in forms of English which would be intolerable out of a schoolbook. One gets tired of the refrain that the schools are trying to "teach the clear and simple expression of ideas" when the prose so often used is a string of dead phrases without spring or balance, point or punch, fetid with the author's fatigue and the fog of terminology prematurely introduced. "Art affects us in our unawares," said Bergson. So does lack of art. These pages are not explicitly put before students as models of composition. Their excuse is the subject matter. But they have their effects nonetheless. It is a sound principle that all sentences to be closely studied in the schoolroom should be as well made for their purpose as the best writers can contrive. There will be enough bad models to contend with outside.

Premature formulation. In another respect these texts often fail. They sum up too soon. It is right to let a student know roughly where he is going, but wrong to save him the journey. Too many courses tell him throughout what he is seeing, so that he memorizes the account of a trip which he never took. His head was buried in the guidebook.

To set out any detailed plan of successive reading here would lead to misapprehension. It is not part of the function of a university committee to suggest to schools what specifically they should do. We may put forward a policy, but there we should stop. The final ground of the policy for the study of literature here outlined is perhaps this: long-continued close contact with excellent work, the best of its kind, has a formative and ordering power especially upon minds still plastic, growing, and active in imitation. And for the teacher, whose position here is ancillary and whose contact with the work studied is much closer and longer-termed, the ordering influences are helpful too. The greater the work, the more support can he draw from the dignity of his charge, until the time comes when a society which would be free recognizes this too and gives him solid support.

If we suppose this principle to be granted — that nothing less than the best practicable literature is good enough for school study — what recommendations as to arrangement and teaching and what warnings as to misdirections of energy can be offered? These questions have of late been much under discussion. Little that is new can be suggested and excellent reports on the same themes are readily available. It may therefore be best to cast this part of our report in summary form as minutes of the great contemporary debate.

A representative report on the teaching of English as a language and literature would set forth these chief points. Among prevailing trends to be discouraged in the study of literature, it would list:

Stress on factual content as divorced from design.
Emphasis on literary history, on generalizations as to periods, tendencies and ready-made valuations — in place of deeper familiarity with the texts.
Strained correlation with civics, social studies.
Overambitious technical analysis of structure, plot, figurative language, prosody, genre.
Use of critical terms (Romanticism, Realism, Classical, Sentimental) as tags, coming between the reader and the work.
Didacticism: lessons in behavior too closely sought.

These dangers are familiar to reflective teachers, as are their opposite extremes:

Superficial reading of too much, with no close knowledge of either the content or its import.
Lack of any aids to the understanding of what is being read.
Indifference to or ignorance of techniques of literature.
Avoidance of critical terms and appraisals when the student is ready for them.
Irresponsible attitude to the implications of what is being read.

Among implications to be kept in mind would be:

That division into intellectual, aesthetic and ethical components is for analysis only. The whole mind, in which these are not separable, is at work in literature always.
That ethical results of literature are not to be seen as obedience to a body of precepts, but come in quickened imagination, heightened delight, and clearer perspective.
That a common body of tradition — to accept, to revolt against, either way to work from — is our primary protection against ethical ignorance.

On the choice and ordering of texts the main points would be:

The limits of available time to be kept in mind. Less to be studied rather than more. Omissions to be planned, not settled by the accident of shortage of time.
Old and new writing to be proportioned with regard to a two-way traffic between:
(a) The new as more immediate and leading to the more remote.
(b) The old as explaining the tradition on which more difficult modern writing depends.
The values of American and English literature and of other literature in translation to be balanced.
Texts for classroom study to be supplemented by less difficult books for outside reading. Guidance to be provided since a chief end sought is extensive discriminating private reading.
Emphasis on mere *number* of books read or book reports made to be questioned.
Proper liberty to be secured for teachers in choosing the texts they can handle best — with enough organization to prevent undesirable duplication.
Historical sequence to be followed only if illuminating to the literature read.

As means to developing better reading, stress to be laid:

On intensive, close study of well-written paragraphs and poems which are saying important things compactly.

On what a word is doing in a place on a page — in addition to its dictionary sense — and the dependence of this upon the context.

On the normal ingredients of full meaning: the literal sense, the metaphoric implications, the writer's (or speaker's) mood, his tone, his intent, his attitudes toward his point, his reader, himself, his work, and other people and things.

On the utility, almost the necessity, of metaphor; and the fruitfulness of intensive imaginative study of how the mind relies on parallels in all its doings.

On paraphrasing of the thought of an original passage analytically for purposes of elucidation, but not as an exercise of synonym-trading or as an attempt to compete with the literary quality of the original.

On the value of reading aloud for interpretation, and of choosing poems and passages of lasting significance to be memorized.

On the economy of reading at different speed and with different emphasis for different purposes.

For improvement in writing — and this goes largely for oral expression as well — stress on the following:

Constant practice, with recognizable problems of expression graded to the shaping mind.

Enough short exercises to permit of careful criticism and revision without undue strain.

Exercises close enough to students' interests to develop their capacities.

Coherence, closeness of observation, integrity of purpose, freshness of attack.

Observance of minimum essentials in mechanics, the manners of discourse. Instruction where necessary in use of dictionaries and other references. (Handbooks of composition to be viewed as etiquette guides, rarely needed if literary upbringing is wholesome.)

Study of grammar only when it can be made to throw light on the workings of language and provide a convenient vocabulary for analysis of structural weaknesses in speech and writing.

Such is the consensus on the art and science of teaching English, a middle-of-the-road policy, far from being as inconsiderate as this current phrase for the golden mean might suggest. As a whole it aims to secure the maximum freedom for the teacher compatible with a coherent and reasonable order. In view of the peculiar relation described above between teacher, subject, and pupil in the study of English, there is no doubt that this freedom should be carefully guarded.

But reasonable order is no less important. If the books read do not seem to the student to have any bearings one on another, we are losing endless educational chances. Granted that false or forced correlations can be a great evil, there is still room to plan sequences and groupings which will "make sense" (including a sense of proportion and direction) for the student. It is impossible to lay out any sound universal scheme for such arrangements, as impossible as it would be to write a specification for intelligent behavior. Conditions do and should vary and should be met with modified plans. Nonetheless, certain general principles suggest themselves to experienced teachers.

For example, relatively simple narrative (*The Jungle Books*, *Treasure Island*, *The Odyssey*) and poetry of fairly open and uncompacted meaning will naturally come early. Bible narrative, myths, travel and adventure, as well as simple character studies, offer endless variety but should be kept on the highest possible literary level. Selections such as were made in the five books of *Cambridge Readings in Literature* show what samples of great writing can be assembled for provocative study from twelve years up. Drama and fiction asking for more analytic reflection would follow with more complex poetry. And prose discussions of fundamental theses (man and the state, the moral order, the problem of pain, the sources of delight, the essential family and social relationships) should not all be postponed to so late a period that the majority will have left school before they are taken up. No great bulk of reading on these themes should be attempted. They lend themselves preëminently to class discussion of short pregnant passages. Even though such work may seem to be over the head of many in the class, these slower minds

should not be allowed to leave without at least knowing that these topics are the prime preoccupation of maturer minds or without some idea, however vague, of what has been thought about them. A time will come for most when these matters will not seem so recondite. And here is a place to observe again that memorization of verse and prose at all stages is a device which is none the worse for being as old as teaching itself.

There is a need for versions of the great works cleared of unnecessary and unrewarding obstacles and made by abridgment and reflective editing more accessible to general readers. We believe that in the interests of teaching and public reading alike it is time for scholarship to turn some part of its best energies to the service of the present. Great books are being read increasingly in abridgments. If these are not made by scholars they will be made by relatively incompetent hands. Only the scholar knows enough to distinguish the parts of Homer, Plato, the Old Testament, Bacon, Dante, Shakespeare, or Tolstoy which are essential to their value for contemporary general readers from the parts which concern only the special student. But the scholar, by his training, his competitive position, above all his professional ideal, is as a rule unconcerned with this problem. The sieving out of inessentials needed if these authors are to be read with profit by nonspecialists, or read widely at all, is a highly delicate process. A separation within the sentence is often needed, an extremely careful weighing of profit and loss, a balancing of one sort of clarity, scope, or fidelity against another. Only the mature scholar saturated with his author can judge of these things; only he can bring together the phrases which supplement and explain one another or cut out with a minimum of disturbance the obstructive detail, the unimportant qualification, or the irrelevant reference. How far this process of clarification or simplification should be carried is, of course, in every instance the prime question. Nothing but a fine awareness both of the material and of the reader's resources will answer it.

Administrative ordering of all this reading should not have coverage as its aim. It should not have even the avoidance of duplication merely as such in view. Most things worth study at

all are worth repeated study. Few things are more educative than a return to a text (which is not to be confused with a textbook) after some interval, to watch how another good teacher handles it. Fear of duplication is a sign of the fear that most teaching is likely to be bad. Two mistreatments of a book are of course many times worse than one. The real aim of administration here should be to see that as little inferior matter as possible is perused, and above all that what is read is timed to yield the most to the students. An external authority can never replace the instinct of a good teacher in close touch with the class. "Best for the class" is, however, a phrase which can hide all the problems. This policy puts immense responsibilities on the teacher who gets as a rule too little aid from the wise in carrying them. It is when reading programs are examined in detail that the principle stressed above – that only the best is good enough for class study – ceases to seem a truism and becomes a constructive command.

In practice the choice of texts is embarrassed by many considerations, some administrative: admission to approved lists, library limitations, lack of suitable editions are among them, of which little in general can be said. Even more apt to interfere with ideal educational policy are certain consequences of the teacher-class relationship. Numbers of books are strong favorites because the teacher feels that with them he and the class have a good time. This is too often accepted as a decisive argument. The further question, "What sort of a good time?" is not gone into, or even raised. Yet this is clearly the important point. Valuable classwork is often, even usually, enjoyable. It does not follow that enjoyable times in class must be valuable. Doubtless in choosing texts nothing can replace, nothing has the authority of, teaching experience. But it must be examined experience, experience which has been put through a Socratic questioning to see whether it knows what it is. As things are, however, so sad a proportion of time spent on literature is plain boredom that attachment to anything which amuses is very understandable. A safe test perhaps might be this: let the teacher ask himself, "Am I needed for this enjoyment?" If the answer is "No, they would read it as

happily and as fully without me," then some other text which will not be enjoyed without the teacher's help should replace it. The choice unfortunately cannot be left to the pupil. He does not know the alternatives to be considered.

The study of literature is throughout the study of language. Most of the English teacher's time and effort, whether he is aiding readers or not, should be concerned with language. But we must go further and say that all teachers of whatever subject have more than an incidental responsibility here. They will feel it in the degree to which they realize how many of their difficulties, and their students' difficulties, come from their own neglect of this duty. A misunderstanding is likely at this point. This is not a question of tackling spelling or grammar considered as a routine quasi-mechanical skill, or of "good English" in any vaguely general sense. It is a question of giving practice and help in understanding and using the English which is the indispensable medium of their own teaching. A science teacher, for example, is not "taking over what the English class should have done" when he gives time and labor to this. Parroting apart, the language as used in a subject is in practice indistinguishable from the subject itself. In working on it he is doing his own work, not the English teacher's work. Teachers of these subjects sometimes are admirably equipped to help students listen and speak, read and write well. And they have relatively defined, simplified, and organized subject matters, which is no slight advantage.

The great bane of science and social studies is mechanical repetition of uncomprehended words and phrases. Literature suffers less from this until critical, aesthetic, grammatical, or technical terminology is used. Then perhaps it suffers more. Teachers of the more exact studies in knowing their subject know its terminology and have at least better means of uncovering the meanings, or voids, which words and phrases contain for their pupils. Satisfactory exploration of literary terminology is so difficult that it should properly be postponed to the college. The science teacher can give a training in the understanding of precise technical language beyond the power of the English teacher, who has essentially to deal with fluid language, with

words and sentences which rightly and inevitably change their charges of meaning from context to context. It is their business to be variable and resourceful. In contrast the terms of science are fixed. Science aspires to use language rigidly, to keep the relations of its terms to one another constant through definition. Its key words are terms in the logical sense, or have a one-one relation to terms. Words in literature and nontechnical conversation are not terms in this sense, and we fall into endless confusion when we forget this.

For these reasons the sciences are the preëminent field for logical studies, for practice in strict definition and the analysis of implication, for the dissection of misconceptions, for the remorseless exposure of false or irrelevant ideas encysted in parroted phrases, and for the discharge of the morbid matter. Nowhere else can the student be so firmly forced to consider how he understands and how much, for nowhere else are such inescapable tests of understanding available. Therefore the science teacher's responsibility for clarity of expression, for the examination of obscure phrases, is unique. It is his duty, moreover, to help the student (in collaboration with the English teacher) to see and remember clearly the difference between the rigid terms of science and the fluid language of literature and conversation, and to protect him from the misplaced technical jargon which is a dry rot in so much current talk and writing. The social-studies teacher, being from the position of his subject peculiarly exposed to this blight, has his part in this to play too. Instruction in language is thus inevitably a joint duty of all teachers.

Nonetheless, the main weight of the task of induction into language falls on the English teacher. What can happen in the pupil depends very largely upon what is happening in the teacher. If he is uncharged with crisp meanings, little is likely to be induced in his hearers; whence, of course, most of our educational woe.

More narrowly, if the teacher's works and ways of speech are limp or confused, he will fail in his main function, which is to excite attention to and care for the living word. Speech comes before reading and writing and should keep this priority. Reading and writing can indeed get in the way, and some current

trends encourage this displacement, eye-reading, for example. It is rapid. It is the right way of perusing the newspaper or most textbooks. The economies of time and effort which are possible by cutting down vocal and subvocal accompaniments have been rightly urged, and the work which goes to this end in schools is well spent. But literature is built with living words, not with graphic marks. It is represented *speech* of one order or another. Strictly silent reading, where no body of sound and vocal movement arises at least in verbal imagery, deprives the words of most of their powers. Their footprints will not do instead. This is most evidently true of poetry. It is remarkable how often a paragraph of argument or exposition which baffles a class will become pellucid to them when read as an organic whole by an intelligent voice which respects and reflects the sequences of the thought. What should be read how is a prime question for a teacher and the class to consider together.

It seems likely that the opening up of print to the learner's eye very largely depends on the teacher's ability to read aloud in a suitable fashion. This is a neglected area in most teacher training. There are dangers evidently. What is required is not elocution but honest regard for the components and structure of the meaning. The teacher must understand as he reads and show what he understands in his reading. We may note here, moreover, that the power to attend to and criticize the spoken word, and all the implications and nuances of its utterance, has regained through the radio a public importance it has not enjoyed since the invention of printing. A modern society has become an audience again. The relevance of this to the concept of freedom hardly needs stressing.

Reading, vocal or silent, is an art. Our risk is to regard it as a mechanism. At the rudimentary stage, in the primary grades, we are content if the right sounds pop out smoothly in response to the graphic stimuli. This tends to make us assume, unwittingly and often incorrectly, that the right ideas too are invisibly popping up in the reader's mind. There is a moral and many a parallel to be drawn here. At numberless points this false assimilation of lower and higher levels of activity misleads teaching.

For example, handbooks of composition frequently discuss the choice of the "right" word as though that were ruled by exactly the same principles as the use of the "right" (i.e. correct) spelling. Here is another instance of that instructive ambiguity of the word, right, which was noted in Chapter II. The first, the right word, is a matter of fitness to ends, but right spelling concerns a formal convention which for English, incidentally, is almost criminally defective. The result of such confusion is often deep frustration and lasting bewilderment in the pupil. Malapropism, the mistaking of one word for another, does have its analogies with misspelling, mispronouncing, and bad grammar. Conforming with a code governs all these. But which word best says what it is best to say is another matter altogether. It concerns choice of ends and judgment as to the fittest means, the highest human capacities. A bare rule as such has to be observed, that is all.

Throughout the teaching of composition the separation of mechanical rules from animating principles is all-important. Composition, by pen or tongue, is largely a matter of imitation. But the word, imitate, straddles all levels. In spelling, in pronunciation, in punctuation, and in grammatical conformities we follow the letter, the surface routine. In everything which has to do with the shaping and expression of thought and feeling, "the letter killeth; the spirit giveth life." And if the models we put before them have no spirit our students' progress must be slight. If the reading matter we force them to attend to is not clear, forceful, well organized, and interesting *as language*, in addition to the interest of its content, we are depriving them of the first instrument of their instruction. We are doing worse than this if we make them suppose we want them to imitate modes of speech or writing whose aim and virtue they have not even felt. Composition, then, is a matter of good models, in speech and writing, and intelligently graded discussion of what makes them good. Hence the importance we have stressed above of the choice of the best for classroom study.

Foreign Language. There is probably no educational problem about which there is more confusion and disagreement than the

role of foreign language in secondary education. Experienced teachers vary between the extreme poles, between, that is, the view that foreign language has no appropriate place in general education, and, on the contrary, that it includes the truly essential subjects.

One of the claims most often made by those who urge a considerable experience with foreign language is its value for the understanding of English and its help in developing a mastery of English composition. It is certainly possible, without great expense of time, to make comparisons between English and other languages which yield fruit of the utmost value. To learn that other languages have words with meanings which no English word carries, that they sort meanings in other ways and link them up in other patterns, can be a Copernican step, one of the most liberating, the most exciting, and the most sobering opportunities for reflection that the humanities can offer. And with it can come, through etymology, a widespread vivification of the learner's interest in English, a sense of the omnipresence of tradition, of the connections of thought with thought kept alive, sometimes against our wishes, by tradition, a sense of the dependence of any one mind upon the vast anonymous work of art his language is, of its limitless past, its vagarious history, the mysteries of its growth and his responsibility to it. All this and much more a first exploration of the connections between English and other languages can give. Sometimes an English word in its varying senses ("idea" or "right," for example) can compact within itself as it were and give a foretaste of a whole philosophy which masterpieces little more than spell out; or a word like "incomprehensible" or "believe" will lend itself modestly to record the most daring efforts of homemade thought, as though all that the mind could do were to catch up with the dictionary.

It might seem, then, that the learning of other languages were an essential part of work in the humanities. For at the other end of the course the values of work in translation are recognized. There is no better practice in reading or in writing English than translation, *provided the translator knows the other language sufficiently well.* Our italics point to the fact that with most

translation work in school this condition is unfulfilled. Between the first Copernican step and the profitable translation work comes the long labor under the taskmaster rule, and few of the many who begin this labor finish it. Few, that is, bring their grasp of another language to a point where it has both an explosive and a disciplinary effect on their English (as Shakespeare's Latin, for instance, put into his hands the huge mass of English words deriving from Latin which he then manipulated and remade freely yet with a certain limiting tact for root meanings). Few, moreover, lay hold through another language of cultural traditions surrounding and augmenting their own. Those who thus fail to bring language to the kindling point are certainly wasting their time – perhaps not absolutely, in the sense that they have learned nothing, but at least relatively, in the sense that they might have learned more from something else. Yet for those for whom language is the opening of doors, either as respects words in the time-honored way of poets and writers or as respects cultures in the way of historians, it is essential. Indeed, they are essential since any society, for want of a certain number of persons so educated, slips into insularity.

The main problem, then, in teaching foreign languages seems to be this: how may many, perhaps most, students be brought to take what we have called the Copernican step – the step, that is, of realization that structure is the skeleton of all speech, not just their own, and that words carry history with them? And how, in addition, may the comparatively few who can and should go further press on to a firm and fruitful grasp of language?

We pause here to interject a distinction which, because it is often not clearly grasped, greatly vexes discussion of language teaching, the question, so to speak, of context and intention. Language is sometimes studied as a tool – for instance, German by prospective scientists who will need access to technical writings in German,[1] or Spanish by persons looking forward to a job in South America. For obvious reasons such study has made

[1] For serious work in the natural sciences, mathematics, engineering, and medicine, German has hitherto occupied a unique position among the foreign languages. It must be remembered that not only the German but much of the

enormous strides during the war. Its relatively clear and simple goal has come to be matched to relatively exact procedures: notably, intensiveness (namely, headlong, though briefer, immersion in a language, so that students shall live for a time in the very atmosphere of it) and the direct method (speaking the language from the start so that it shall become, so far as possible, a living habit rather than a bare conceptual scheme). But precisely because such strides have been made in teaching language as a tool, it is sometimes assumed that that is the only purpose for teaching language. That is not the case. Greek and Latin, as dead languages, and many living languages also, are studied not as tools but for the cultural ends mentioned in the last paragraphs. One could of course say that Latin was a tool to Shakespeare or Milton or that French is such to those who read Montaigne or Molière. But to say that is to cavil, for the reason that even in the act of studying these languages students are concerned with more than language itself. They are concerned with the very stuff of the humanities, with timeless writings, with other cultures, and with the ever-changing meaning of words. Evidently, then, these two reasons for studying a foreign language — as a tool and as a part of humanistic education — are distinct, implying distinct methods and looking to distinct ends.

Language as a tool hardly falls under the humanities, and it might be said that it is more closely allied to special than to general education. It is of course true that a person who has learned German for scientific reasons may go on to read Schiller. It is also true that any study of language, however narrowly pursued, must have an effect on a person's native speech. At least it is hard to imagine anyone of so obdurately practical a bent that, in learning a new language, he fails to draw comparisons, note etymologies, and in general improve his speech by fresh experience in putting words together. Language has this in common with travel – that it inevitably raises contrasts. But there is no nook or corner of knowledge which will not bear in the same

Scandinavian, Dutch, Swiss, Polish, and Balkan work, as well as that of Russian and Oriental investigators, is, or was until recently, published in full or abstracted in German.

way on general education, given the intention to make it do so. We shall therefore say nothing further of language as a tool, except that it will in fact prove to many a necessary tool which they will have to gain when the need for it arises. Colleges will doubtless increasingly offer intensive courses, especially in summer sessions, when, conscious of their need, students may repair it as quickly and effectively as possible. Such courses will be harder to institute in schools, where the curriculum is less flexible. But as the experience of the armed forces in teaching language has shown, the first and indispensable prerequisite is motive, the sense that a language is necessary, and when this sense is present (as with the hopeful young scientist taking up German), the learner will make good progress even without the best intensive methods. What is to be avoided at all costs is study of language which neither makes it a tool nor adds to humanistic education, dim, perfunctory plodding, without clear goal or tangible results.

To return then to the earlier point, there are, so far as general education is concerned, two distinct stages in teaching language: what was called the Copernican step, for many, and a deeper grasp of language in connection with literature and history, for a comparatively few. It remains to speak briefly of each of these stages.

Enough has been said of what is meant by the Copernican step, and of how liberating its expansive influence can be on a student's understanding of his native speech. The question now is how such a step can be brought about. Much has been done in recent years with so-called "general language," which is study of the structure of other languages, both related and unrelated to English, and also of the origin of words. Its virtue is that it aims frankly and openly at what any study of language in general education should accomplish at this stage: namely, at illuminating English. Its weakness may be that it is too academic, too consciously the fruit of research, for the ninth grade – that it, so to speak, talks down to students by merely offering them information without rousing in turn their own powers of performance, as the study of a single language can do. Trial will make clear

how useful the method is. If it survives, it may well become the core of English teaching in the first year of high school.

Meanwhile, the teaching of a single language will remain far the commoner way of giving perspective to English. There are few subtler tasks than this early stage of language teaching. Moreover, it is hard to estimate, since its results should appear primarily in a student's English, not in his grasp of the new language. The reason why this should be so lies in the whole history of the English speech. The tribes which early mingled on the British Isles evolved a progressively more simplified speech lacking the genders and most of the case endings. Hence followed the extreme dimness of English grammar and syntax. But the close ties between England and the Continent, particularly after the Norman conquest and throughout the Renaissance, enormously enriched the language, supplying a synonym of Latin origin for virtually every Germanic word in the tongue. Hence arose the staggering size of the English vocabulary, hence also the subtlety and allusiveness of English as characteristically used by those who have fully felt its potentialities. The result is that, whereas an ordinary Frenchman can read Racine and an ordinary German, Schiller, an ordinary Englishman or American has much greater trouble with Shakespeare. To return, then, to the early stages of language teaching, its prime function is not to give a practical command of the new language; on the contrary, it is to illuminate English in these two respects in which English supremely needs illumination, namely, syntax and vocabulary.

This need explains and largely justifies the traditional use of Latin or French in the late primary or early secondary years. The somewhat mystical superiority of intellectual discipline which has been claimed for these languages, especially Latin, may be largely false. Nevertheless, as regards syntax, they are far clearer than English, and it is precisely this clarity which is wanted from them, to be reflected back, so to speak, on English. For this reason they should come early rather than late in the curriculum, preferably in the seventh or eighth grade, where it is arguable that they should even be substituted for English. At least, the advantages to school English if more students came to

it with some experience of syntax and some sense of the root meanings of words would be enormous.

But the precondition of any such gain is that teachers fully understand and never forget the reasons why a foreign language should be taught at all at this early stage – which reasons, to repeat, have chiefly to do with a student's growth in his own speech, not in the foreign speech. Yet young people have definite minds, and to be told that they are studying a language and yet somehow not studying it could be confusing, to say the least. Hence their progress must inevitably be measured to some extent by the new language rather than by the English. Here is at once the danger and the advantage of studying a single foreign speech as opposed to general language. The danger is that it shall be studied only for itself without relevance to English, as general language clearly is relevant. The advantage is that a single speech is something definite for students to grasp, an intellectually coherent system fixed in history and appealing both to their logical powers and to their imagination of mankind and of the past. The teacher who would escape this danger and reap these advantages has the complex task of interpreting a foreign culture through its language and, at the same time, of rousing the sense of structure and vocabulary as common to all language. This task calls for tact, knowledge, and sense of proportion of a very high order. Yet given the history and nature of English – perhaps even the nature of the human mind which learns the familiar only by experience with the unfamiliar – few tasks are more important.

Finally, a relatively small number of the many who have thus begun a foreign language for the sake of their English should go further. We are not here thinking of those already mentioned who will pursue language as a tool, but rather of those for whom it should be the path and guide to deeper understanding of the humanities. The relation of language to the humanities is in many ways like that of mathematics to the sciences. Both mathematics and language exist, so to speak, in their own right (mathematics no doubt to a greater degree than language), yet both are at the same time doors to neighboring studies. As many students,

at something like the second or third year of high school, will turn in the direction of mathematics and science, so others will turn to language and literature. That is not to say that general education in both fields should not be continued for each of these groups, but simply that one group will find its natural home in the one field and the other in the other. Those, then, whose serious interest is in the humanities have, as it were, a double task to perform, even beyond their work in English. They should attack language as intensely as those for whom it is merely a tool (for why should they go on at all if they are not to achieve some such firmness of grasp?). Yet they must at the same time find in language more than a tool – an insight into another culture, a vision of the history of ideas, something which in depth and vitality far surpasses translations.

What should be the languages to be pursued in this spirit? German and Spanish will presumably be studied largely as tools. The French or Latin begun earlier will be for many the natural avenue of this further humanistic study, and they should be taught with this intention and this alone. But a word should be said of two other languages, Russian and ancient Greek. One need hardly dwell on the greatness of Russian literature or on the import of Russian thought and history for any future that we can foresee. Begun in the last years of school, Russian should give something like a new dimension to the work of some students chiefly interested in literature or in history and the social studies. The same is true in a slightly different, though not less important, sense of Greek. General education will only make more clear the fundamental place in our culture of the great Greek writings. Philosophy, political theory, many branches of literature, even as they largely began for us in these writings, so inevitably return to them for comparison and refreshment. Though the great majority of students will come to know these writings in translation, still general education will fail of part of its function unless it leads some to that vividness of understanding which only the original can inspire. This, in short, is the purpose of all further study of language in general education – to give to some that vitality in humanistic training which others will gain in scientific

training and which, so far as schooling can assure insight, is the root of insight.

The Arts. For the purposes of general education art should be experienced in as many forms as possible from earliest infancy. By the arts we mean chiefly music, painting, drawing, and modeling. We do not of course deny the value of the dance, architecture, and the rest of the arts; but we are now concerned with general education in the schools and with what has been and can be usually taught there. It may be doubted whether formal courses in these subjects should be required of students in the secondary schools, although some circumstances may justify such a prescription. But the absence of required courses, or of any courses at all, should not mean an absence of musical or artistic experience. The happiness of many, perhaps of nearly all, people will be enhanced or diminished by the presence or absence of aesthetic sensitivity to music and the fine arts, as well as to literature.

The arts bring delight; they train the emotions; they develop understanding. For instance, skill in drawing and painting sharpens our visual perceptions so that we can see better and see more in the realm of color, form, and space. More generally, in all the arts including music (with its cultivation of auditory perceptiveness) the mind is enabled to rise above the literal and the obvious and to grasp the resonances and the overtones of experience. It is usually said that art is the discernment and communication of beauty. Such a statement is sound in the double sense that it makes clear that art is not a preoccupation with one's private state, and that art is more than a manipulation of colors, sounds, and other materials. Yet the term, beauty, limits the scope of art unduly; beyond the beautiful the artist is concerned to discover and express any variety of value in things.

Thus, instruction in the arts should be viewed as a part of general education. The arts appeal to the mind through the senses, enabling the young to understand their heritage in the most direct fashion before reason has matured. The progress of the mind as it unfolds in time is from nonverbal thinking to conceptual thinking and finally to the grasp of the variable mathematical symbol.

The arts give a meaning to our heritage for those who might never gain an understanding of it through abstract concepts. And when reason has become mature, the arts reinforce what is already grasped conceptually, by giving it sensuous embodiment. The word, appreciation, is much in vogue in any reference to the aim of courses in art. This term has been designed presumably to mean something between understanding and feeling and mostly succeeds in conveying neither. To study the world's artistic heritage is to educate one's mind by partaking of the insights of the masters, as well as to experience sheer delight. But introduction to heritage is only one aspect of learning. Here we come to the contribution of the individual mind. The masters are not models to be imitated in a mechanical fashion; their value for the pupil is to deposit a seed in his mind which may grow into a plant, small or large. What is learned must be so mixed with one's own substance that it will issue into new and personal forms.

We must be on our guard so as not to confuse individuality with subjectivity. In a natural reaction against the concept of verisimilitude in the arts, the teacher today urges the pupil to pour out his soul on the canvas as spontaneously as possible. Yet aesthetic work is not self-expression but self-transcendence, as when an actor projects himself into a role. The cult of self-expression in the arts is partly the result of a reaction against Puritanism which has overreached itself. Doubtless all learning must be absorbed into the tissue of individual experience, since man is a living being growing from within out. Yet work in the arts is significant in the measure that it has submitted to discipline. It is not a case of an alien force imposing arbitrary restrictions. The discipline comes from the very nature of the materials used by the artist, such as color, space, clay, and sound; and it comes from the structure of the object which is revealed. The word, imagination, tends to mislead our mind, suggesting as it does mere inventiveness. In fact, the imagination discloses to the mind a realm of ideal possibility and of value. The artist does not create this realm; he discovers it and, upon entering it, obeys the rules of the realm.

To recapitulate, instruction in the arts consists of three phases

— first the reception of heritage from the past, second the reaction of the individual mind upon this heritage with a view to the enhancement of present experience, third the opening of the eyes of the mind outward to the universal realm of value. We are not suggesting that the three phases need follow one another in this order. In many cases, the heritage of art is better understood after the pupil has already familiarized himself with the natural beauty around him.

Art is the merging of idea and feeling with concrete material; no wonder, then, that Platonists and Puritans have so often feared art. An aesthetic conception is inseparable from its material embodiment. In painting, the artist is thinking and feeling with the tips of his fingers; and, generally, in the arts learning is bound up with doing. Thus, art by its very nature makes the transition which we have described by the term, relevance. A pupil who sings or plays an instrument is thereby helped better to understand and appreciate fine points in the literature of music. Beyond all the other arts, architecture is committed to the task of making relevant judgments in complex situations. A painter may claim to inhabit Bohemia, but an architect, normally, must live in the everyday world. In planning the construction of a house, he must consult not only his taste but his client's domestic needs and the limitations imposed, for instance, by economic factors and those of geographical location.

Finally, instruction in the arts has a bearing on other traits of the person beyond those of his intelligence. In this world we have to live with others and with ourselves; we need the virtues both of society and of solitude. Such an art as music cultivates the social skills. To sing in a choir or to play in an orchestra is to merge oneself with a larger and disciplined whole without, however, losing one's own individuality. For it is by virtue of playing a definite and individual role that one contributes to the effectiveness of the organization. And inasmuch as in music there are no explicit ideas at all, there is no scope for controversy or dispute either. Thus the arts contribute to a welding of human beings whom other influences would pull apart. Individuals who differ in their intellectual abilities can all respond to the

sensuous appeal of the arts. Communal festivals or religious rituals are cases in point. Now the arts have been defined as an expression of the play impulse, and indeed the same rhythm of society and solitude is illustrated in the world of sports. In football, for instance, the individual must adjust himself to an organized group. But fishing is a lonely sport. The individual is apart from his fellow men: all alone in the presence of the glassy or the rushing waters, he has the chance to ponder deeply, since even the fish may be away. Fishing fosters not only philosophy but the arts as well, notably the art of fiction.

In turning to some of the methods suitable for teaching the arts in the schools, we shall begin with the pupil who expects to make a career in art. We deplore the frequent practice of putting the gifted pupil in an art school almost from the outset. Here we revert to some of our earlier remarks. An artist cannot become a great or even a good artist unless along with technical skill he has a certain range of human experience and understanding. To deprive him of a general education is to diminish his chances of artistic growth. And should it turn out later on, after he has had an exclusively artistic education, that he is not suited to a career in art, he will lack the general equipment and flexibility to change to another career. But the schools must make special adjustments for the gifted pupil. Since, particularly in music, professional training must begin at an early age, he should not be required to take so many academic courses as are usually prescribed.

However, our primary concern is with the pupil who is receiving a general education and does not propose to become a specialist in the arts. The important question is what he will be like when he has grown to be a mature person, and whether instruction in the arts has given him something which will be available to him all his life. Is the usefulness of school instruction in the arts to be measured by considering what skills he has acquired which he can use in his leisure, or in terms of a more indirect and more general enrichment of experience? Probably it should be measured in both ways. For instance, the student who is not to become a professional musician may nevertheless learn to sing or play an instrument as an amateur. The case of drawing and

painting is different. It is said that Mr. Churchill is an accomplished painter, and that when, owing to the vicissitudes of political life, he is out of power, he spends a good deal of time in painting. But very few of us will have a chance even to resign from great office; and few nonprofessional pupils can be expected to acquire enough skill in school to be able to go on painting with pleasure to themselves, much less to others.

For the purposes of general education in music the advantages of choral singing are obvious. Children sing naturally and almost all children can sing. Of course, for many playing an instrument affords an admirable musical outlet. But singing is the utterance of oneself through tools provided by nature. There has been an unfortunate tendency in the schools to concentrate on the imparting of musical techniques and on the reading of musical notation. This is too theoretical. Practice should precede theory, and theory when it comes should be pertinent to the practice achieved. The pupil must first be given musical experience: listening to music and, even more, participating in it. Correlatively it is important to develop the taste of the pupil, and for this reason it is essential that he should be provided with music of the highest standards. When the music is of poor quality, he is soon bored. Nor is it necessary that the music be spectacular, impressionistic, or even romantic in order that it be intelligible and interesting to him; the young have a natural liking for rhythm and melody, easily found in the works of the great masters.

When we come to the question of the other arts, the situation is different. Oftentimes a youngster who has a knack at reproducing the outer look of physical objects or persons is hailed as a potential genius and urged to make a specialty of painting. Yet it is possible that lacking, as he well may, imagination and depth, such a youth will be a failure. Nonetheless, the current practice of letting and even urging the pupil to be as "creative" as possible must be deprecated. It is surely a paradox that, whereas a student of the piano is obliged to spend long hours laboriously acquiring craftsmanship, it is assumed that one may use colors or draw by relying solely on natural gifts. Instruction in drawing

and painting should include courses designed to give an understanding of the principles of color and form. One who has acquired the relevant knowledge and taste will then have no need of the specialized vocational courses as, for instance, those in household decoration. An aesthetic education will give a young person standards which he can apply to particular situations. The purpose of general instruction in the arts is to help the student to bring to bear his aesthetic taste upon his daily living. Our houses and our factories, our cars and our bridges, can be made to combine an adaptation of means to ends with a conformity to aesthetic norms. Only the existence of an artistically educated lay public can guarantee this. Now that the patrons of art are no longer princes, peers, or even the great rich, but come from the larger public, it is of the highest importance for the interests of the professional artist himself that the lay public have discriminating taste.

3

The Social Studies

WHEN Aristotle said that "man is by nature a political animal" he did not mean that man invariably seeks public office or habitually engages in what we may think of as the activities of the politician. He meant, rather, that civilized man lives in a politically organized society, that only in such a society can he live a satisfactory life. He was reflecting the doctrine of his teacher, Plato, and of his teacher's teacher, Socrates, as also when he said that "virtue and goodness in the state are not a matter of chance but the result of knowledge and purpose." Not all people were, in his estimation, adapted to the highest form of civic life. But even among those whose capacities fitted them for life in society, their natural endowments were but the beginning. "All else is the work of education, we learn some things by habit and some by instruction." Like Plato and Socrates before him, he believed with unquestioning faith that education for life in organized

society is essential to the well-being of the state. It is, in other words, a condition of the good life for all citizens.

The education which seeks to promote active, responsible, and intelligent citizenship is ordinarily general rather than special education. It is not, to be sure, reserved for formal education since the shaping of the future citizen takes place mainly at home, at church, on the street or playground, before and outside of school and college. But neither the school nor the college can defensibly fail to attempt the promotion of the kind of citizenship upon which the well-being of our entire way of life depends.

Nor do the social studies include all those which have a very real bearing upon life in society. In some measure every subject in the curriculum helps achieve this great goal of general education. But the social studies have a more immediate relationship to civic education than do the other studies of the secondary-school years, and even though they are concerned with other aspects of general education than training for a life of civic responsibility, this is their distinctive justification.

As was remarked, the schools are far from being the only agencies concerned with the development of citizenship. In this area, as perhaps in no other with which the schools deal, their work is intimately related to that of a number of nonacademic organizations. The Boy Scouts, the Girl Scouts, the 4-H clubs, the Y.M.C.A. and Y.W.C.A., as well as many other religious and civic groups, often do more toward instilling an attitude and habit of responsibility than the schools can ordinarily accomplish. In some school systems, both rural and urban, certain of these activities have been closely tied to more formal schoolwork, usually to the advantage of both. Certain localities have experimented with a kind of civic apprenticeship which seeks to introduce the boy or girl directly into the field of adult civic activities. But whether youth organizations are entirely separate from the school or are closely affiliated with it, many of them unquestionably succeed in bringing students at an impressionable age into some direct touch with civic life, and in giving them a vivid sense of its opportunities and its obligations.

In addition to formal studies most schools have various more

or less extracurricular activities which contribute to the aims here being discussed. Many offer programs of lectures and discussions which help stimulate an interest in public affairs. Student government may be an introduction to the methods and responsibilities of politics. School forums and debating societies are ordinarily concerned with public issues and play an important role in the development of a great many boys and girls who become leaders in their generation. Interested and energetic teachers are often able to establish and encourage current-affairs clubs, discussion groups, and mock political conventions.

The value of such activities, whether inside or outside the schools, can be, and indeed frequently is, enormous. Nothing that we shall say about the value of formal training should be taken to reflect any doubt in our minds as to the debt which our society owes to such organizations and such methods of acquainting boys and girls at an impressionable age with some of the vital relationships and obligations of social life. We believe, indeed, that their importance will be greater in the future.

But if we recognize the value of these activities, we must also recognize their limitations. It is rare that such organizations or activities can help develop materially that sense of perspective which ordinarily follows only upon the study of instances and ideas removed in space, and usually in time as well as in space, from immediate experience. What was earlier said about familiarity with the traditions of our civilization is as pertinent to the teaching of citizenship as to the study of literature. Political wisdom has always been founded in some part upon knowledge of the past, and upon comprehension of those values which are either implicit in institutions or which have been nobly expressed by statesmen and philosophers. To say this is not to question the value of an understanding of immediate political and economic affairs. It is only to say that a study of immediate problems is ordinarily inadequate since the immediate problem is itself, in some measure, the product of tradition and of inherited ideas. We urge not the necessity of antiquarianism, but rather that kind of education which, specifically directed at wise and responsible citizenship, includes the formal study of history and the social

sciences. Interest in, and good will toward, civic affairs are invaluable but inadequate.

The need for differentiation, discussed in the previous chapter, will probably result in certain variations of subject matter in the social studies with different groups of students. It is of course clear that the goals remain the same. But differences in background and in intellectual competence will call for variety in materials and teaching methods. As between those students who are preparing for college and those who do not expect to continue their formal education beyond high school, we see but slight grounds for differentiation in subject matter. Those whose formal education ends with high school, as well as those who intend to go on to technical institutions or to liberal colleges, need that cultural literacy which springs only from the study of history. All of them should be given some sense of the nature and value of the inheritance which they did not achieve but which they must help maintain, as well as some understanding of that principle of continuity with the past which is possible only through the study of the past. Whether the student expects to spend six or eight years in college and in professional school, or to begin to earn a living at once, he cannot avoid the fact of citizenship, and the schools will not fulfill their duty to society unless they help their students understand the nature of the problems and responsibilities of the society in which they must live and which they should help govern. The only sound principle upon which to base a distinction in the allotment of time and of courses as between those who are preparing for college and those who are not is that certain aspects of work in the social studies, such as the course dealing with government and economics, might be postponed until the college years on the assumption that they could there be studied in a more mature way and, therefore, be of greater value in the development of citizenship. For those students who plan to take advanced work in government, economics, or sociology in college a sound secondary-school preparation in history is of particular importance.

An over-all plan dealing with the teaching of the social studies is essential in every school. The first reason for such planning is

to ensure that no subject or materials of basic concern are left out. The second is to provide for the orderly development of a curriculum adapted to the age and accomplishment of pupils in the various grades. The third is to avoid duplication and repetition.

The Elementary Grades. Since this committee has to do chiefly with secondary schools and colleges, it would be inappropriate to discuss in detail the content of social studies in the elementary grades. But we suggest that the work of the high school can be much more substantial if it is built on a foundation which has been carefully designed and carried out in the lower grades. It should avoid repeating what the student has previously covered, unless these materials are such that a second reading is likely to be of greater value than something new. It should also be able to assume some understanding of certain specific methods of learning, a competence in certain skills, as well as a grasp of certain bodies of information.

We do not mean to advocate a long series of systematic or chronological surveys through the first seven or eight grades of school. Such surveys are of extremely doubtful value, at least before the senior high school. It is, for one thing, unwise to attempt in lower grades what can be done much better later on. We have, moreover, in schools and colleges alike, often made the mistake of believing that comprehensive coverage is the inevitable method. Surveys have their place, and it is an important one, but the systematic or comprehensive survey is often better calculated to stifle the student's interest than to arouse his curiosity and to lead him to go on for himself. As Montesquieu put it, "We must not always exhaust a subject, so as to leave no work at all for the reader."

In the lower grades children can begin to gain some comprehension of the customs, the methods of making a living, and the traditions of peoples remote from their own experience, as well as some sense of the historical development of their own community. The relation of environment to civilization is not something which can be acquired solely through a study of the immediate scene. To say this is not to deprecate the study of the community

or state or section, since such study is essential to an appreciation of many aspects of society and politics, but to urge that localism by itself is a weak basis for citizenship. In these grades the emphasis should be less on survey or on chronology or on time sequence, than on gaining perspective through an introduction to a fairly wide variety of the ways in which people in differing civilizations have lived. This can often be carried on most fruitfully in connection with the study of geography. But just as the merely picturesque is to be avoided, so is the sentimental approach to other peoples and times unlikely to yield any realistic understanding of their way of life.

It is hardly for us to describe the appropriate subject matter for the grammar grades. There are many possibilities, and they can be combined in many patterns. The study of relatively simple peoples, such as the Vikings or the American Indians, of value in early grades, is doubtless inappropriate for children old enough to find in *Huckleberry Finn* the basis for understanding one of the most fascinating segments of American life. The great explorations of early modern times provide rich materials which help give an understanding both of the economic problems of that age and of the folkways of various peoples. Such study can also be a vivid and a valuable introduction to modern geography, one which keeps it from appearing as nothing more than an interminable series of lists of capitals, rivers, and principal products.

There is a commonly accepted principle that work in social studies in the seventh and eighth grades should be carefully related to that of both the elementary grades and of high school. It may be doubted whether there is any single program which would suit the needs of all schools. But experiments which have been and are being carried out by many school systems calling for the beginning in the seventh grade of a group of two-year sequences in the social studies suggest valuable educational possibilities. This plan relates the first to the second year in these groupings and also provides secure foundations for the work to come. In those schools where a large proportion of the students leave before the eleventh grade it will be desirable to have in the

seventh and eighth grades a course on community life and civics, as well as a primarily narrative course on American history. Whether such a program is equally desirable in those schools where all, or nearly all, students complete the twelfth grade is, in view of our recommendations for these years, less clear. We repeat how important it is to avoid the repetition and duplication now to be found in some curricula. There are many valuable subjects which might properly be offered in the seventh and eighth grades, leaving the formal study of American history and of civics until the last years of high school.

The High School. We do not propose that every student in every secondary school should have work in the social studies during each of his four years, although in most schools that might be an eminently desirable plan. In an earlier section we suggested that English continue through all four years, even though it might not be a major or full-time subject in each. There are also great advantages to continuity in the social studies, and if the schedule has sufficient flexibility it may be found both desirable and possible to have the social studies likewise present in each of the four years, although in one or two of those years, probably in the ninth or tenth grade, they might count as minors or as half-courses.

A number of schools are now considering the adoption of two two-year sequences in the social studies for the high schools. This plan has advantages, although it may not be applicable under all conditions. Such a program would include the study of European history, or of general history and geography, in the ninth and tenth grades, to be followed in the eleventh and twelfth by a final two-year sequence dealing with American history and with the problems of American life. This scheme can be adapted to the needs both of independent schools and of public-school systems, whether those systems include junior high schools or retain the older four-year high school.

In any case no one should graduate from secondary school who has not had a considerable amount of work in the history of modern civilization. We see no way of attaining that perspective, that sense of proportion, which is an essential component of good

citizenship, without some understanding of the forces which have gone into the making of the age in which we live. All citizens need to realize that the causes of present happenings ordinarily go back before December 7, 1941, or March 4, 1933, and nearly all of them have roots which penetrate far deeper than the twentieth century. The heritage from the past includes wars and racial prejudices as well as modern science and medicine. It includes that group of institutions, traditions, ideas, and values which we call "the American way of life." Certainly the studies of every student should include a thorough course in American history given toward the end of high school. But, important as we conceive such a course to be, it cannot provide all of the historical materials or training needed by American citizens. A very large proportion of our institutions and ideas, even of our standards of value, have origins which antedate the coming of the white man to this continent. Our science, our art, and our literature are not purely American creations. We live, moreover, in a world of smaller dimensions, and it is no longer possible for us to ignore the wars or other conflicts which originate thousands of miles from our boundaries and whose causes often involve events or tensions extending centuries into the past.

The focus of work in general history should be Europe, although a course which failed to include the relation of certain events and tendencies in European history to those of other areas, particularly Asia, would be too narrow to serve the needs of modern citizenship. Such a course should probably not be a survey of the entire range of European history, or even of Europe since the fall of Rome, but it should not be confined to Europe in the nineteenth and twentieth centuries. Whether the course be one which deals with events spread over a very long period of time or be confined within somewhat narrower limits, its central goal must be kept clearly in mind: to set forth the main tendencies in the development of modern civilization.

Along with the study of general history should go the further study of geography. That subject seems to be studied most fruitfully, at least in high school, when it is linked with history. It does not follow that students should be expected to learn every

change that has taken place in the map of Europe since Charlemagne, or even since the Treaty of Westphalia. Such rote learning turns into a travesty both of history and of geography. But the importance of geographical factors in the growth of the modern world needs emphasis. This would be particularly true in connection with the study of the history and problems of the twentieth century, which should include economic as well as political geography.

While we think that general history, and especially European history, has been unhappily neglected in many schools, both public and private, during the past few decades, we do not, to repeat, propose that every school should provide precisely the same course. Certainly colleges should not attempt to require for entrance this or any other single pattern of courses even though they may, and we think should, expect of students some substantial work in European or in general history as well as in American history. But there are obvious dangers in prescribing the particular methods by which these aims should be attained. There may, for example, be in a given school a teacher who is devoted to ancient history, and a course in Greek or Roman history can be made a vital part of the education of future citizens, even though, no matter how well taught, it would not afford that familiarity with the background of the modern world which is necessary to an understanding of the great society in which we live. Such a course might, that is to say, be an extremely valuable basis upon which to build later work in modern European and in American history, even though it would not be a substitute for either. The need for experimentation in teaching the social sciences will continue. It would be most unwise to cast them in a rigid mold. The enthusiasm of a teacher for his subject is always of first importance. But even when all of these factors are taken into account, it may be doubted whether any of them can justify the exclusion of European and American history from the list of courses which best subserves the purposes of general education.

It is probably unnecessary to speak at length of the importance, or even of the nature, of a course in American history to be taken

later in the school years, preferably in the eleventh grade. The value of such work at this time is now generally accepted, and such a course is almost universally to be found in the secondary schools.

In some school systems pupils are exposed to American history three, four, even five or six times. Testimony, both from educators and from students who have experienced, and suffered from, such multiple exposure leads us to the view that there is no sound reason for this repetition. It leads neither to mastery of nor to interest in American history. The subject is many times surveyed, usually with diminishing returns and increasing distaste. It seems wiser to fix the responsibility for American history in one year of high school and then to insist that the standards of that course be as high as those of any in the school. No course will carry a heavier responsibility; none will afford greater opportunities for inspiring teaching. We reiterate our opinion that this subject can be most valuably studied when it constitutes not a separate item in a miscellaneous array, but is introduced as part of a sequence of courses in history and the other social studies. The aim of such a course is to provide a basis for all later study or discussion of American life and society and for participation in the work of citizenship. It should, we think, be strongly factual in nature. That is not to say that it should consist of lists of dates and presidents. Rather, its emphasis should be on the careful and even detailed study of many of the principal events, movements, personalities, and institutional developments in American history. Easy generalization should not be encouraged at the expense of genuine learning. The course should certainly deal at some length with the happenings and the trends of the last half-century, but it should not be confined to the recent period.

The residue which holds over from the study of history in school will be much greater if the method of uniform coverage is avoided. What we have said earlier about the importance of selection applies here. Some breadth of coverage is always necessary in dealing with a broad sweep of history in order that connections and relations may be indicated. It does not follow that coverage need be uniform, that all aspects of the story be

dealt with, much less dealt with in equal detail – or equal lack of detail. Those periods, those great writings and documents which constitute landmarks in the history of our institutions, certain of the momentous experiments and discoveries which have been responsible for the transformation from magic to modern science, the impact of technology upon economic and social life, some of the conflicts which have led to, or immediately preceded, great wars – certain of these can profitably be dealt with in considerable detail, while only the simplest narrative is employed to tie together parts of the whole pattern. The systematic survey of chronological completeness succeeds only in finishing the course as marked out in a syllabus, while dulling the student's interest in history and limiting his understanding to the narrow confines of a textbook. A course that attempts to present the contributions of certain peoples or inventions or movements or events to the formation of our civilization may fail to attain a neat comprehensiveness, but it may also leave a much more enduring imprint on the student's mind.

In addition to some appreciation of the legacy from past generations, and some understanding of the variety and complexity of inherited problems, the student should gain from the study of history a considerable training in what may be called the historical skills: the ability to analyze maps and documents, to apply tests of credibility, and even of scholarly validity, to current materials as well as to those of the past. We have suggested that it is educationally dangerous to require students to form judgments without evidence. It follows that they must be given experience in gathering and weighing historical evidence. What was said about the evils of premature formulation in the teaching of English is equally relevant to the teaching of history. It is crucial that students acquire a mastery of the relevant factual detail. Yet the pursuit of facts for their own sake which results in the irrelevant learning of the quiz programs is equally undesirable. We realize that it is far easier to make such statements than to apply them in the classroom. Few traits more clearly distinguish good teaching from bad than intelligent use of the principle that interpretation and generalization, though impor-

tant, are valuable only when based on an understanding of the facts to which they relate. The tremendous accumulations of historical scholarship during the past generation have made the problem infinitely harder for the teacher than it was in the nineteenth century. But the problem remains. So far as schools are concerned, history is studied not for its own sake but because of its relation to the whole of general education, and that education cannot be successful if it is confined to the memorizing of half-understood details or if facile interpretation be substituted for careful study. William James' remark that we can see into a generalization only so far as our knowledge of detail goes, applies to the social studies as well as to every branch of learning.

The course dealing with the nature of contemporary society constitutes a fitting culmination for all the work in the social studies that has preceded it, and it should be an invaluable introduction to the task of citizenship which lies just ahead. By a study of contemporary society we do not mean the study of current events, although the best teaching will ordinarily have some relation to contemporaneous problems and happenings. Rather do we suggest as thorough a study as is feasible in the eleventh or twelfth grade of those topics which are dealt with in colleges in departments of government, economics, and sociology. The subject of such a course would be, in other words, the goals and the values, the organization and the processes, the problems and conflicts in the political structure, the economic life, and the social relationships which go to make up the United States. Obviously no single course can even attempt a comprehensive survey of this broad domain. No one has yet found the perfect selection or arrangement of materials and topics, nor is it probable that any one plan will please all teachers. The very richness of the opportunities will inevitably result in variations of approach and emphasis. Such a course can be most profitably given when it follows immediately after the study of American history. It will be even more profitable if it has also been preceded by work in general or European history and in political and economic geography.

Many of the courses dealing with this subject matter carry

some such title as "Problems of American Life," or some variation thereon in which the word "Problems" appears. Emphasis upon problems, at least when the word is at all indicative of content and approach, has both advantages and disadvantages. It is of the first importance to introduce students at the end of high school to some of the unsolved, and perhaps insoluble, problems of modern political and economic life. It is equally important that the emphasis be not upon problems alone, particularly since many of the issues which loom large today will seem trivial, if they are not quite forgotten, a few years hence. A course of this kind should never neglect the basic structure and processes which go to make up the political, economic, and social system. It is of equal importance that it deal with the values expressed in our institutions. A course which emphasizes racial discrimination and scarcely mentions the humanitarian movements of the last hundred years, with their common premise of the dignity and worth of all human aspirations and their magnificent, if unfinished, list of achievements, is likely to foster either cynicism or romantic zeal for a quick remedy, which may turn into disillusion at the first contact with the difficulties and complexities inherent in the attainment of true reforms. A course which pictures vividly the grim story of political corruption and, with scant formality, passes over the vast significance of a party system of government in which freedom of speech means the right to disagree, where the opposition seeks power only through constitutional means — where words and ballots are substituted for violence, concentration camps, and enforced conformity — such a course will have failed to give the student a true idea of the nature and the values of the society in which he will be called upon to exercise the functions of a citizen.

Such treatment of American political, social, and economic life should not be concerned only with the contemporaneous or with our society as a going concern. The old and much criticized maxim, "Politics without history has no roots," expresses a sound view if only it be wisely interpreted and applied. It does not necessarily mean that politics (which, as once understood, embraced economics and sociology) should be taught only in his-

torical terms. But the political, economic, and social problems of today do have historical roots, just as they will supply the roots of other problems in the future. Connections with the past and some knowledge of these problems are essential to an understanding of the complexity of the political organism.

The movement toward a "realistic" study of government and economics has unquestionably produced a clearer picture of contemporary problems and processes. But the understanding that has resulted has often been shallow, partly because of neglect of historical forces, partly through lack of attention to the role played by relatively abstract principles of politics and economics. Nearly fifty years ago Justice Holmes said, "Theory is the most important part of the dogma of the law, as the architect is the most important man who takes part in the building of a house." The generalization is as valid for the social sciences as for law and architecture, yet the teaching of these subjects is rarely based upon the principle which Holmes expressed. One result is that the slogans and catchwords of the moment are accepted as statements of profound truth; another is a skeptical relativism which recognizes no standard of value except success. There is no better safeguard against these unhappy conditions than the study of some of the speculative doctrines, as well as some of the statements of political and social faith, which served the men of the past — the men from whom we inherit the institutions for whose perpetuation and improvement we are responsible. A wise student of American history and government recently remarked that we today have no substitute for the old books of maxims and precepts of free government which formerly constituted a basic part of instruction in the schools. The lack to which he referred is a serious one, even though the old collections of maxims seem dogmatic and not entirely relevant today. But some of the classic statements of political and social theory can profitably be used either in courses in European or American history or in those dealing with civics or American life. Obviously there will be a need for careful selection of such materials in relation to the capacities of students, and we do not suggest *The Politics* or *The Wealth of Nations* in high-school courses. But there exist

statements of the essential principles of democracy which should be made available to all students; other statements, as with algebra or advanced work in foreign languages, would be suitable only for a somewhat limited group. Thus Mill's *On Liberty* or his *Representative Government* probably could be studied profitably by only a minority of high-school students. Some parts of Jefferson's *Notes on Virginia* and some numbers of *The Federalist* might be read by a somewhat larger proportion, provided the teacher has the training and the capacity to explain their place in the growth of American polity and is able to discuss their relevance to contemporary affairs. Nearly all students should have an opportunity to read some of the major constitutional documents and certain of the great speeches of Pitt, Burke, Lincoln, Wilson, and Roosevelt. Passages from many of them have become the common possession of literate men. Primarily they are eloquent testimonies of faith in a free society. They are also illustrations in the history of constitutional democracy and statements of the principles which have shaped and continue to shape the social order in which we live. As such they warrant analysis as well as repetition.

During late years there have been many criticisms of the teaching of social studies in schools. These criticisms, at least those coming from persons outside the schools, seem to be variations on a single theme, but for purposes of analysis and discussion they may be considered under three heads: first, that teachers of the social studies have often substituted moralizing and sentimentality for sound analysis; second, that there has been much thinness and superficiality; and third, that the subject matter of these courses has not afforded the intellectual discipline of such subjects as the languages and mathematics which have been crowded out in order to make room for these inadequate replacements.

It is easy to agree that a course which consists largely of moralizing about proper attitudes is a poor training ground for citizenship. Fortunately the flag-waving chauvinism of the sort lampooned by Dickens in Jefferson Brick is rarely found among teachers, although members of school boards sometimes indulge

in it. Students ordinarily view such oratory with fitting detachment. But the common sense of students can hardly supply the solid base of information which should underlie every such course. We need more interpretation rather than less in our teaching of all of the social studies. But theorizing which has no secure roots in factual knowledge is unlikely to bear sound fruit.

Closely related to the charge that a sentimentally ethical tone has sometimes been substituted for more serious study of both principles and causal factors is the charge that these courses have been superficial. It is apparently true that a good many teachers, sometimes because they have lacked an adequate preparation in the subject, have emphasized almost wholly the merely contemporaneous, discussing current events with very little relation to the complexities which they invariably reflect. Even the best-trained teachers, in colleges as well as in schools, have occasionally been so ambitious to cover a vast number of topics that they have dealt thoroughly with none of them. In historical courses as well as in those devoted to civics or to problems of government and economics there is always the danger of spreading so thin that no opportunity is afforded for careful analysis. From undue spreading has followed the result, above alluded to, that true learning has been sacrificed to quick generalization. Too many children have learned too little about too much. The fault has probably been as much with school authorities and with those responsible for college-entrance requirements as it has been with teachers. All alike must recognize more clearly the limitations inherent in a succession of broad surveys; all must encourage intensive as well as extensive study.

The view that the social studies do not offer the discipline provided by some of the more traditional subjects is largely misplaced. It is true enough that these subjects do not even aim at the exactness or the rigor appropriate to mathematics or to the study of Latin grammar. But an education wholly devoted to the study of those disciplines would be incomplete indeed. It is no criticism of the values of mathematics or grammar to suggest that the methods of reasoning applicable to them are only partially applicable when one must deal with the complexity of

social and political life, with the emotions, the variables, the unknowns, to be found in almost every situation which the student will later meet. Rigorous exactitude does not allow for continuity and change. In education, as in life, we cannot flee from distressing complexity and uncertainty to the cozy neatness and comprehensiveness of dialectic. Scholasticism gave to modern civilization the vital principle of orderliness. But intellectual orderliness can, when misplaced, be fatal to either order or justice in the changing society that is our heritage and our responsibility. What we can hope for in the teaching of the social studies is not a mathematical or logical precision, but rather an understanding based upon careful, even rigorous, study of some of the stubborn facts which have gone into the making of our social order, as well as a consideration of the theories and principles implicit in it.

This is clearly no easy assignment, and to accomplish the aims we have discussed, teachers of the social sciences must be persons of capacity as well as of superior training. Many are now chosen not because of their competence but because they have time left over from their activities as athletic coaches, or for other reasons as irrelevant. Even among those teachers who devote their entire time and attention to the subject, there are a good many who have been poorly trained. Teachers of history and of the other social studies need at least as much college training in history, government, and economics as do teachers of languages or mathematics in their fields. Training in methods of teaching the social studies can be useful, but training in methods is not a substitute for training in content. Colleges must share in the blame for this condition. Many of them have failed to offer the kind of courses needed by teachers. Rather, courses have commonly been planned only for the needs of prospective college teachers or research scholars. They have been particularly lacking in their failure to define the objectives to be sought in the study of these subjects. It is easy for any college or university teacher to become so fascinated with the internal consistency and the scholarly problems of his specialty that he loses all sight of its relationship to general education. In order that secondary-school teachers of history and the social studies may have a sounder training, col-

leges and universities must reconsider their methods and their offerings.

No discussion of the problems of teaching the social studies would be complete without a recognition of the restraints sometimes imposed on teachers by outside persons or groups in the community. These limitations or compulsions come ordinarily from those who believe, or profess to believe, that they are expressing the true principles of Americanism. They too often forget that the basic doctrine of that faith is freedom of thought and speech, as they fail to recall the disastrous effects in many countries of abandoning that freedom. It may readily be agreed that teachers must be aware of their grave responsibility in discussing debated and debatable political and social ideas and movements. Their role is analysis, discussion, teaching — not stump oratory. But recognition of the nature of that role must not be allowed to become an excuse for strangling the freedom to investigate and to discuss controversial issues. That freedom is essential to the continuation of the American way of life. Teachers are citizens and their students will soon be expected to take up the obligations of citizenship. Unless teachers are free to enjoy the privileges of citizenship outside the classroom, and to carry on in the classroom the spirit and practice of inquiry and discussion, the rights of teachers and of students will have been sacrificed to a principle of enforced conformity which has been far more productive of the spirit of revolt than of intelligent participation in the democratic process. Change is inevitable in politics, as in science and in the art of war. Our constitutional system is based on that assumption, and orderly change, as the founders knew, can proceed only out of free discussion. To those who are entirely content with the existing condition of affairs, any consideration of proposals for amendment may appear to be both unpatriotic and unconstitutional. To them we would recall the statement of Jefferson, made at the age of seventy-three, after he had spent nearly a decade in reflecting on his forty years of public life:

> Laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlight-

ened, as new discoveries are made, new truths disclosed, and manners and opinions change with the change of circumstances, institutions must advance also, and keep pace with the times. We might as well require a man to wear still the coat which fitted him when a boy, as civilized society to remain ever under the regimen of their ancestors. (*Writings*, Paul L. Ford, ed., X, pp. 42–43.)

4

Science and Mathematics

SCIENCE IN GENERAL EDUCATION. Science means many things to many different persons. To some it is typified primarily by the miracles of technology which have changed the face of civilization and which exert a continuing impact on all aspects of modern society. To others science signifies predominantly an intellectual enterprise marked principally by precision, so that it tends to fuse with mathematics; or by the ordering of evidence, so that it tends to fuse in this regard with certain social sciences. To still others it represents primarily a body of knowledge and hypothesis concerning the material world.

Science partakes of all these things. But if it is to be considered fruitfully, and its contribution to general education evaluated, it must be defined more adequately. From our point of view science is primarily a distinct type of intellectual enterprise, involving highly restricted aspects of reality and prepared as such to make particular types of contribution to general education.

Science is not to be divorced from technology. Science and technology develop in parallel, each fructifying the other. Yet science is not technology. Its prime end is *knowing* rather than *doing*; or better still, it is doing in order that one may know, rather than doing with primarily other ends in view — greater convenience, technical efficiency, military power, or economic advantage, for example.

As was said in Chapter II, science is certainly distinguished by a persistent effort toward precision. It measures whatever can be

measured. Yet it is only as logical as its interpretation of reality permits. When logic and apparent fact fall out with one another, the scientist takes the fact and leaves the logic for future repair. Science is concerned with understanding and operating with nature. Its object is, as Bacon expressed it, "to command nature in action." It is not primarily concerned with the construction of a logical system. Science, like the proverbial man from Missouri, insists upon being shown. It is in this regard an expert and highly organized common sense.

When we say that science is concerned with things and events which permit exact definition and measurement, we imply a certain stability in these things and in their behavior. To a degree science limits its interest to the stable or repetitive. The material world abounds in such phenomena; yet it cannot be relied upon to produce them for inspection at times and under conditions which best satisfy scientific examination. The scientist therefore ensures himself, when he can, the proper circumstances for pursuing his inquiry by ordering the conditions of the natural event himself. This is the point of scientific experiment. By this means matters may be so arranged as to yield an unequivocal answer to a highly specific question concerning the real world. Such regulation of the system under regard is beyond the powers of students in other areas of reality.

It is this constant appeal to things as they are which makes the direct experience of the field and laboratory essential in scientific education. Needless to say, this is so only to the degree that work in the field or laboratory is designed not merely to keep students busy or to develop technical proficiency, but to provide directly the materials of scientific argument and the tests of scientific hypothesis. For this purpose no elaborateness is needed. The simple observation that weights tied to the end of a certain length of string oscillate with the same period no matter what the weight or what the amplitude of swing demonstrates better than any quantity of verbal explanation the genuine meaning of order in nature. The direct observation that part for part the structure of man parallels that of a frog conveys as can no amount of statement a sense of the genetic relationships of living organisms.

Science is concerned with the marshaling and critical appraisal of evidence; so also are many other fields of learning. But science is concerned with evidence of a peculiar sort concerning a particular class of phenomena, specifically with those material things and processes which permit exact description and measurement. The world contains many things which do not lend themselves to this type of examination. These things, whatever their intrinsic value to us as human beings, fall outside the province of the natural sciences. Science is prepared to deal only with those aspects of reality which lend themselves to its methods of appraisal. Great confusion in the public mind has resulted from the failure to appreciate this fundamental and self-imposed limitation. This consideration is fundamental also in defining what we mean by the natural sciences. Certain aspects of human social organization, for example, represent potential natural sciences, since man and society are part of matter and nature. This potentiality, however, cannot now be realized, precisely because man's social behavior and social processes cannot yet be analyzed and defined with sufficient precision.

The element of precision in the natural sciences is fulfilled by measurement when possible. It then yields a description which is numerical and which therefore can be manipulated mathematically. The end of this process is the enunciation of a scientific law or hypothesis. In the best case a scientific law takes the form of a mathematical equation. Not all branches of science *attain at all points this ultimate state, but all aspire to it, and all* measure their success by the degree to which they approximate this condition.

Quantitative measurements and their mathematical manipulation are therefore woven inextricably into the structure of science. Within large areas of physics, chemistry, and biology one can no more excise mathematics than logic without destroying the essential structure. Modern physics originated in the careful measurements and mathematical arguments of Galileo, modern astronomy in Kepler's mathematical treatment of the extensive measurements of Tycho Brahe, modern chemistry in the quantitative analyses of Lavoisier, modern physiology in the measure-

ments and calculations of blood flow and heart volume by William Harvey. Newton was forced to invent the calculus to deal with his dynamical observations. Instruction in science should certainly inculcate in the general student an appreciation of these relations and some exercise in their application.

Mathematics and work in the laboratory represent genuine intellectual barriers for some students. It might be supposed for this reason that the values of science instruction which are our primary concern in general education might be conveyed more successfully without these elements. What this notion fails to appreciate, however, is that direct observation and precision are among the most important values and basic ideas that science should contribute to general education.

What might be conveyed without them is not only not science, but is in a very real sense antiscientific. It comes perilously close in spirit to the scholasticism with which modern science broke at its inception. It possesses the typically scholastic reliance upon verbal authority – in this case the authority of the writer of scientific texts – it has the same predominantly deductive logical structure, and the same preoccupation with words rather than with the objects and processes which they only imperfectly symbolize. The thought that an understanding of science might be conveyed as well or better without direct observation, experiment, and mathematical reasoning involves a fundamental misapprehension of the nature of science.

We have stressed certain very general points of view and modes of approach which animate all the sciences. It is clear that important lines of thought and content interconnect the sciences with one another. Yet it must be added that despite their many interconnections and similarities, the individual sciences differ widely. These differences emanate from the nature of physical reality; they are not simply foisted upon us by the predilections of scientists.

In going from physics to chemistry, from chemistry to biology, one crosses genuine hierarchical boundaries. The basis of consideration of the natural world changes; different frames of reference are invoked. One either considers different things, or one con-

siders the same things from wholly different standpoints. When we deal with a lever in physics we are not concerned with whether it is made of wood or steel. When we deal with wood or steel in chemistry, we are not concerned with the possibility that these substances are to be used to make levers. When levers enter biology, it is in the form of anatomical adaptations of the principle of the lever for animal locomotion; and here we are concerned primarily neither with the principle of the lever as such nor with the substance of the lever as such, but with the role of anatomical levers in promoting the maintenance and survival of the organism.

So it is with almost any aspect of the material world which we care to examine. It is presented to us physically, chemically, or biologically, not merely in different aspects, but on wholly different levels of approach and reference. Associated with these basic intellectual differences are wide differences in technical approach. One has only to enter a physical, a chemical, or a biological laboratory to see that each of them works with different tools; one is confronted with different sights, sounds, and smells. This fact again is not based upon the inclination or education of the scientist, but upon the nature of the material being examined and the nature of the inquiry being pursued. What we deal with, therefore, in the division of the natural sciences is inherent in the modes in which the natural world appears to our senses. It is no mere traditional educational tactic. Since this is so, it cannot be exorcised by any mere educational reconstruction.

It should be an important aim of general instruction in science to make this truth clear to students, to give them a clear appreciation of the hierarchy of nature and its reflection in the hierarchy of the sciences. There is abundant opportunity provided here to convey a most important generalization: that all modes of inquiry must be adapted to the material under consideration and to available methods of approach. If this educational task is properly accomplished we shall have less in future of attempts to use the "scientific method" upon material wholly unsuited to whatever methods may be employed under that guise; and more realization that statements in the literary or social sphere neces-

sarily are different in nature, and in precision, from statements in mechanics.

We have defined above what we mean by science, what it is and what it is not, and have attempted to give some idea of its unique characteristics and the unique contributions which it can make to general education. Our task is now to define more closely the conditions under which these potentialities can be realized. It is not enough that courses in science purvey precise information, use mathematical methods, maintain laboratories, and avoid doing violence to the hierarchical structure of nature and of the sciences. Many such courses as now constituted have all these characteristics and still fail to make the full contribution to general education which is potentially theirs.

The reasons for this failure are to be sought in many directions. Particularly at the middle levels, the teacher is not always clear whether he is engaged in general or in special education, what proportion of his effort is to be spent on coverage and on being factually up-to-date, to what degree he is training for manipulative skill, and so on. From the point of view of general education, we are interested in these things not primarily for their own sake, but as they fit into an integrated intellectual structure. Science instruction in general education should be characterized mainly by broad integrative elements – the comparison of scientific with other modes of thought, the comparison and contrast of the individual sciences with one another, the relations of science with its own past and with general human history, and of science with problems of human society. These are areas in which science can make a lasting contribution to the general education of all students. Unfortunately, these areas are slighted most often in modern teaching.

Many science teachers may at once object that they are already badly pressed for time. There is so much ground to cover, and so much more is added day by day, that the teacher is engaged in a continuous struggle to encompass the subject matter. How is he, then, to deal with extra things – the critical examination, history, literature. and general cultural context of his subject? It is of course true that as extra things these aspects of science in-

struction should be impossible. But they are not extra things—they are the very stuff of science in general education. Once it is clear that one is engaged in general rather than special education, these are things which must be emphasized, and to an increasing degree as the student matures. Obviously in the very young, science instruction primarily takes the form of conveying some familiarity with the world of immediate experience, and this necessarily proceeds mainly by direct contact and emphasis on fact and classifications. The integrative element here is the student's own mode of life and his personal relation to the immediate environment.

But as one leaves direct experience, and the immediate and familiar, an increasing need arises for an intellectual structure, an articulated skeleton to be clothed with the flesh of scientific fact and demonstration. The facts of science and the experiences of the laboratory no longer can stand by themselves, since they no longer represent simple, spontaneous, and practical elements directly related to the daily life of the student. As they become further removed from his experience, more subtle, more abstract, the facts of science must be learned in another context, cultural, historical, and philosophical. Only such broader perspectives can give point and lasting value to scientific information and experience for the general student.

When are we, in fact, engaged in general rather than special education in science? We believe the answer to this question is reasonably clear. Below the college level, virtually all science teaching should be devoted to general education. Certain types of technological instruction in the secondary schools, which have a primarily vocational intent, we do not include in our consideration of the sciences. It may be hoped that whenever possible even such vocational instruction might retain elements of a general scientific attitude. What we have to say about relations between general and special education in science at college must be reserved for the next chapter.

Science in the Schools. Education in science should begin early in the primary grades, surely not later than the seventh grade. It can approach familiarly immediate aspects of the environment.

They may be dealt with in large comprehensive units, the study of which transcends the conventional boundaries between the various branches of science. At this stage, in fact, no important end is served by concentrating on the method or structure of the sciences. On the contrary, the student and his environment are the central themes; and their interrelations, if pursued rationally, necessarily disregard all such limitations.

So, for example, if one approaches the study of the atmosphere, one should ascertain by simple means that air has substance and weight, that it exerts pressure and has other such properties which conventionally belong to the realm of physics. This might well be followed by a consideration of the composition of the air: so, for example, combustion removes a fraction of the air, oxygen, occupying about one fifth of its total volume, producing in this process carbon dioxide. Here one is in the conventional sphere of chemistry. One might well proceed immediately to demonstrate that a living animal also consumes oxygen and produces carbon dioxide while a green plant reverses this process, and here we have entered biology.

Even at this most elementary stage the student should become familiar with the direct appeal to nature which is the heart of science. To a large degree this can be done by demonstration, but students should be led to explore matters for themselves and to find answers to simple problems by direct experimentation. There is also of course a great area of science which involves careful observation rather than experiment. Every effort should be made to induce a genuine and rich familiarity with the world of nature outside the classroom. This is the period of life in which collecting, classifying, and simple description are particularly attractive; and all these things, which form so large and indispensable a background for the more sophisticated experiences of later life, should now be fostered and developed.

Important as it is that the student learn to experiment as a means of solving natural problems, it is not at all requisite that he concern himself with an intellectual analysis of this process. In reality the scientific method, of which so much is spoken for both good and ill, is whatever means may be appropriate for

solving problems in the natural environment. The working scientist brings to bear upon these problems everything at his command — previous knowledge, intuition, trial and error, imagination, formal logic, and mathematics — and these may appear in almost any order in the course of working through a problem.

The nub of the matter is that the problem be solved. One may go back afterward to analyze what has occurred, and then may generalize it and put it in the form of a logical sequence. But that is not how the thing actually happens; and in any case the analysis of this very complicated procedure is a highly sophisticated venture not necessary to the successful operation of the method, and certainly no concern of a child engaged in his first approach to nature. Nothing could be more stultifying, and, perhaps more important, nothing is further from the procedure of the scientist than a rigorous tabular progression through the supposed "steps" of the scientific method, with perhaps the further requirement that the student not only memorize but follow this sequence in his attempt to understand natural phenomena.

In high school science instruction should certainly continue. At this stage those who are properly qualified to do so should have the opportunity to pursue sciences and to begin to develop the skills appropriate to them. But for those especially for whom secondary education is terminal, and possibly for all students, a course in a particular science does not really fulfill the aims of general education. There is place for a rigorous and highly integrated introduction to science as a whole. Such a course should differ greatly from the type of general science taught in grammar school. It can expand its content beyond the student's immediate environment and experience. It should begin to segregate for him the differences in point of view and approach which are the basis of the division of the sciences into separate disciplines. It should include something of the history of scientific discoveries and some discussion of major scientific concepts and hypotheses. Such a course, properly designed, might not only be the ideal offering for the terminal student but the best possible introduction for those who will go on to the individual sciences.

As a second course in science, or as a first course for those whose training in general science is already adequate, a course in general biology is probably most advisable. In the ninth or tenth grade biology takes precedence over courses in other sciences, both because the student's stage of intellectual maturity is better suited to the subject matter of biology, which can be dealt with largely in a descriptive way, and because the content of this course is more intimately related to his daily experience and educational needs. Such a course should, for example, provide informative and emotionally neutral approaches to such subjects as personal and community hygiene, nutrition, and sexual reproduction.

General biology, coming usually at the tenth grade, is probably the last formal science instruction that many students not going on to college will obtain. Whatever they are to learn of the scientific spirit and methods of accumulating knowledge must be epitomized in this course. This aim might be attained in part through study of the work of great biologists – Pasteur, Mendel, Darwin, and Harvey, for example – and in part through individual projects involving laboratory or field work which run parallel with the work of the classroom.

Those students preparing to enter college but who have no direct interest in the sciences might also stop at this point; or for those who have had biology in the ninth grade a further course in physics or chemistry might be advised. Better still for such students would be a systematic presentation of basic concepts and principles of the physical sciences, such as is now being experimented with in a number of schools. This type of course draws illustrative materials, as they are appropriate to its principal themes, from the fields of physics, chemistry, geology, and astronomy. Its aim should be to supply a broad view of the nature and organization of the physical world and a more mature approach to scientific concepts than is possible in the general science teaching of grades seven through nine. Needless to say, its primary aims should be those of general education, not the development of the skills and technical knowledge of the potential physicist and chemist.

Those who plan advanced work in science and mathematics in college should go beyond secondary-school biology to a year of chemistry or physics or both. An integrated course in physical sciences might be of particular value to such students. A course like this can profitably extend into a second year. When properly designed such a two-year sequence should make a greater contribution to the student's general education and his preparation for future study than separate one-year courses in physics and chemistry.

In the final section of this chapter we shall say something about the importance of shop training in general education. For those who intend to go into scientific or technological work, it has special relevance. The manipulation of objects, the use of tools, and the construction of simple apparatus all are required for entry into the world of experimentation. Even the pure mathematician is greatly aided by shop experience; the forms, contours, and interrelations of three-dimensional objects provide a stimulus and satisfaction not to be achieved altogether within the limits of plane diagrams. The lack of shop training is at present a most serious deterrent to entry into all types of technological work and to college and postgraduate training in science, medicine, and engineering. What students should learn in secondary school specifically is the use of simple hand tools and the execution of simple basic operations such as soldering and elementary glass blowing and joining. If the student can be taught to operate a drill press, a wood lathe and a machine lathe, so much the better. Obviously, the equipment for work with power-driven tools is not ordinarily available except in larger schools.

Mathematics in General Education. We have already emphasized the indispensable part which mathematics plays in the study of the natural sciences. This by no means exhausts its position as a tool and as an effective mode of thought in general education. In subjects other than the sciences – notably in economics, psychology, sociology, and anthropology – frequent and increasing use is made of the graphic presentation of data, of statistics, and of simple algebraic formulas. Almost all students meet one or more of these fields either in the course of their formal education

or later, and hence should be prepared early with the simple mathematical techniques required for their pursuit.

This argument has particular and immediate force for the prospective college student. But the need of elementary mathematics in fact involves a much larger and constantly growing section of the general population. The complexities of organization and technology in modern industry, in government, and in the national defense make increasing demands upon the mathematical equipment and skills of the ordinary participant and worker. The wartime situation in which many young men otherwise qualified for officer training were rejected because of deficiency in mathematics can be duplicated in many varieties of employment. The fact is that there is a steadily increasing number of jobs in industry, as well as in both civil and military governmental agencies, for which a sound training in algebra and geometry is a prerequisite. For a fairly considerable number of positions solid geometry and trigonometry are essential.

Beyond this, however, mathematics has an important intrinsic role in general education. It helps build some of the skills and comprehensions that make the effective individual. Within the past fifty years mathematics and logic have been fused into a single structure. In so far as logical thinking is rigorous, abstract, and relational, its connection with mathematics is obvious. The ability to analyze a concrete situation into its elements, to synthesize components into a related whole, to isolate and select relevant factors, defining them rigorously, meanwhile discarding the irrelevant; and the ability to combine these factors, often in novel ways, so as to reach a solution, all are important features of mathematical procedure.

Mathematics may be defined as the science of abstract form. It is concerned with the universal pattern within the concrete situation. The discernment of structure is essential no less to the appreciation of a painting or a symphony than to understanding the behavior of a physical system; no less in economics than in astronomy. Mathematics studies order abstracted from the particular objects and phenomena which exhibit it, and in a generalized form. When Bertrand Russell defined mathematics as the

subject in which we do not know what we are talking about, and do not know whether what we are talking about is true, he stated wittily what we have been saying solemnly.

Mathematics is by no means the only road to an appreciation of abstraction and logical structure. But tactically these ends may be approached most readily through mathematics, particularly with the young. No better example of an abstract logical system for use with adolescents than demonstrative geometry has yet been discovered. One has only to experience its impact upon a bright youngster – the satisfaction with which he borrows the logical sequence of propositions, the reiterated "therefore" and the "Q.E.D." – to realize the force of such instruction in general education.

General education throughout its history has included mathematics as one of its major components. It has lost none of its relevance in modern general education, though to it now must be added the enormous utility of mathematics in modern life.

Mathematics in the Schools. By the end of the seventh or the middle of the eighth grade every pupil should have acquired a reasonable facility in the language of arithmetic, the beginning of an appreciation of the number system, some competence in the solution of arithmetical problems, and some appreciation of the power of mathematics in formulating and solving problems in the real world.

By this time also every pupil should have learned the commoner facts of geometry, either by induction from measurements, drawings, and gross observation, or by intuitive reasoning. The next stage in mathematical instruction, and the last for those students who are least apt in the subject, should convey an appreciation of the use of formulas, graphs, and simple equations, and should develop some skill in solving right triangles trigonometrically. Even in the case of pupils who are not quick in mathematics, these last steps should require not more than half a year. Probably little more than half the pupils enrolled in the ninth grade can derive genuine profit from substantial instruction in algebra or can be expected to master demonstrative geometry. Those who have the requisite abilities should certainly receive such instruction.

The teaching of these subjects is complicated by the fact that many students of low mathematical aptitude feel compelled to study algebra and demonstrative geometry simply to maintain their intellectual status, or because these subjects are integral parts of college-preparatory instruction. In most schools the attempt to deal with such students in the same class with their more able fellows has resulted in substantial concessions in the way these subjects are taught. It is probably true that any considerable softening of instruction in algebra and demonstrative geometry, to bring them within the compass of the mathematically inept, serves no useful purpose. It makes a contribution of very doubtful value to the slow students at the very real expense of the more acute.

It is unfortunately true that those aspects of algebra and geometry that are of greatest interest in general education are also more difficult to teach, and are much harder for the student to grasp, than are the technical skills of mathematical manipulation. The pressure to make mathematics easier for students, therefore, is inclined to take the form of making it less meaningful and more technical, of developing it as a ritual of memorized formulas and procedures. This consideration runs just counter to the popular notion that the principles and basic ideas of mathematics are relatively easily conveyed, and that it is the drill and solution of specific problems that present the most formidable obstacles.

We must recognize, then, that for the mathematically less *gifted pupils in the ninth grade there is little straightforward* mathematics available beyond elementary instruction in arithmetic and informal geometry, which, as was said, should include guidance in the use of formulas, equations, graphs, and right-triangle trigonometry. If it be thought that these students might more profitably be taught such a subject as "commercial algebra," only a cursory glance at this subject shows it to be harder than ordinary algebra. On the other hand, it is of course desirable to stimulate the interest of mathematically inept students in the number relations of arithmetic and in the elementary principles of geometry by presenting mathematics in various disguises — such as shop mathematics, business arithmetic, mathematics of the

farm, and so on. In such novel forms these students can be brought to reëxamine and improve their grasp of simple arithmetic and its application to practical problems.

If further mathematics is to be given these pupils, informal geometry and mechanical drawing offer the greatest chance of success because of their concreteness. In such an approach, however, one has been forced to concede one of the primary values of mathematics instruction in general education. Mathematics comprises both abstraction and the application of the results obtained by abstraction to specific real problems. Of these aspects, the basic one is abstraction. Only because it is abstract is mathematics applicable generally to problems which arise in widely different areas. When a student has reached his limit of tolerance in handling abstractions, his *general* education in mathematics must also come to an end.

We may now consider the students of relatively good mathematical endowment. These pupils can acquire in the ninth and higher grades a genuine appreciation of algebra as an extension and generalization of arithmetic. Through algebra they gain a better understanding of the number system of arithmetic and of arithmetical procedures. Through algebra, also, they can appreciate how the abstraction and generalization of specific procedures yield solutions that are applicable to a wide range of real problems; and that by solving their problems symbolically by means of algebra they enormously simplify and shorten their numerical computations.

These students have the capacity also to understand demonstrative geometry, which they should be taught in the tenth and higher grades. Instruction in this subject should give them practice in devising and appraising logical arguments and in pursuing a limited argument to its conclusion. It should also bring them to appreciate the structure of an abstract logical system.

Though it is of course possible to learn to reason deductively without the aid of instruction in demonstrative geometry, no better example of an abstract logical system within the reach of secondary-school pupils has yet been discovered. Properly taught, it shows the need of undefined terms, defined terms, and assump-

tions in every sustained logical argument. It proclaims its theorems as valid conclusions from basic assumptions but makes no assertion that the assumptions themselves have absolute validity. It suggests that starting with other assumptions one might arrive at quite different theorems, equally valid logically, yet possibly contradicting the former set. Demonstrative geometry, so taught, becomes the study of geometric systems and goes on from these to yield conclusions concerning logical systems in general. The projection of the structure of geometry into areas of more immediate and often of more practical interest to the student should be taught explicitly. It is only in this way that there can be accomplished the "transfer" of mathematical values to other spheres of human interest, which is a primary concern of general education.

In describing the instruction in algebra and demonstrative geometry in grades nine, ten, and eleven, we have had in mind the needs of all those students who have mathematical aptitudes above the median. As has already been emphasized in a preceding discussion, the circumstances of life, work, and national well-being in our highly technological culture make it essential that virtually all students who have the capacity for mastering these subjects be taught them. The student preparing to go to college certainly needs this instruction.

For students who by the tenth or eleventh grade have decided that their interest in science and mathematics will not extend beyond a general education in these areas, no further work in mathematics can probably be prescribed. Nevertheless, to ensure even such students full freedom of choice in later pursuing some scientific or technological training, and to assure them a more complete and rigorous training in an area of constantly widening importance in all fields of learning, further mathematics might be very strongly advised.

Rather than have such students pursue further mathematics in the customary large units – solid geometry, trigonometry, or advanced algebra – it might be more valuable to give them in the senior year, just preparatory to entering college, an introductory survey of elementary trigonometry, statistics, precision

of measurement, and the use of graphs. Such a course would give them a very general, if elementary, equipment for understanding better a number of situations with which they can scarcely fail to make contact later. It would also serve as a freshener, just before entering college, of their previous training in algebra and geometry, often all but lost by this time.

In any case the common practice of leaving a gap of two years between the last instruction in mathematics in secondary school and entrance into college represents an enormous waste in the educational process. During this interval much of the mathematics taught in the ninth and tenth grades is forgotten, and much of the mathematics instruction of the freshman year at college is devoted to its recall. On purely educational grounds it would be very much better if even the minimum program of mathematics instruction which we have suggested for the precollege student were taught at a slower pace, so as to be distributed over the entire secondary-school course.

For students who by their third year in secondary school have decided upon a college training involving science and mathematics, pure or applied, further training in mathematics is needed. Beyond demonstrative geometry, such students ordinarily should have instruction in advanced algebra, solid geometry, and trigonometry. Particularly for these students a senior mathematics course which abandons the traditional method of teaching these subjects separately might be desirable. This would resemble to a degree the senior mathematics which we have just discussed with reference to nonscience students. For students with a direct interest and general aptitude in science and mathematics, such a course might include – besides elementary trigonometry and some solid geometry – analytic geometry and an elementary approach to the principles of the calculus. It should in any case bring such students to the threshold of the calculus, so that the first mathematics course in college can attack this subject directly.

Teachers and administrators who are charged with the task of guiding secondary-school pupils in the choice of their studies may be interested in the judgment of college teachers of science. The latter, of course, wish to have every pupil in secondary

school acquire those scientific ideas that should be the common property of everyone. But from the point of view of college instruction in science, if they must choose between students who have studied considerable science and only a little mathematics, and students who have had little science but who are well grounded in mathematics, they almost universally prefer the latter. Statistics of the College Entrance Examination Board show success in college physics to be correlated more closely with a high score in the Board's examination in advanced mathematics than with a high score in its examination in physics.

To summarize, those aspects of mathematics that should be prescribed for all students can be mastered by the end of the eighth grade or by the middle of the ninth. Above this point a division must be recognized between students who can derive little profit from further instruction in pure mathematics and those with relatively good mathematical aptitude. We have taken the position that of the latter group in the senior high school, every student should be strongly advised to study both algebra and demonstrative geometry and should not reject either subject lightly. The prospective candidate for admission to college certainly needs instruction in both these subjects. Those college-preparatory students who have no special interest in science, medicine, or technological fields should not be required to pursue the study of mathematics further. All competent students with special interests in these fields should take all the secondary mathematics that is available.

5

Education and the Human Being

THE fact that an educational institution grants a diploma on the basis of the completion of courses and the passing of examinations does not imply that its aim is wholly to impart learning. As we suggested in the second chapter, learning is also for the sake of cultivating basic mental abilities; in short, to foster the powers of

reason in man. The ability to think in accordance with the facts and with the laws of inference, to choose wisely, to feel with discrimination is what distinguishes man from the animals and endows him with intrinsic worth. Yet reason, while an end, is a means as well – a means to the mastery of life. The union of knowledge and reason in the integrated personality – this is the final test of education. We are not now denying the central position of reason or of knowledge as ministering to reason; we are only urging that reason is or must strive to become a master of a highly complex inner kingdom consisting of many and diverse members, all of which go into the making of a complete man. To put the matter bluntly, the educational process has somewhat failed of its purpose if it has produced the merely bookish youth who lacks spirit and is all light without warmth. But to leave the matter in these terms is to make for dangerous confusion; we must safeguard our statement from the misunderstandings to which it is exposed. What are some of the important qualities, over and above intellectual ability, which are necessary for an integrated and sound human being?

The school will be concerned with the health of its pupils, both physical and mental. The human body must be healthy, fit for work, able to carry out the purposes of the mind. Mental health has two forms. The first is social adjustment, an understanding of other people and a responsiveness to their needs with its counterpart of good manners. The second is personal adjustment, the individual's understanding of himself, his poise and adequacy in coping with real situations. Obviously the two are inseparable.

While traditionally man has been viewed as primarily a rational animal, recent thinking has called attention to his unconscious desires and sentiments which becloud and sometimes sway his reason. To be sure, classical philosophers recognized the existence of the passions, but they tended to regard the latter as alien intrusions and an unwanted complication. Yet passions, although dangerous because primitive and even savage, are a source of strength if properly guided; they supply the driving forces for achievement. Lord Bryce once said that if government were in the hands of the young many mistakes would be made, but if

government were run by old men nothing would be done. According to the ancient myth, reason is the charioteer that directs but is not the horse that pulls the chariot. In the complete man we look for initiative, zest and interest, strength of resolution, driving power. In a free society much of improvement, in or outside government, comes from the initiative and the dogged perseverance of private citizens; and the clash of ambitions in the struggle for the rewards of life, when regulated by the rules of fair play and a concern for the common good, is a source of social progress.

The danger in the preceding account is that the various components of the human person might be wrongly viewed as isolated elements or faculties, each leading an autonomous existence. For instance, reason is not a faculty operating separately from interest and zest. Without a zeal for knowledge, without the impulse of curiosity, the thinker will remain lazy and unproductive. And yet, while ordinarily the perfection of one human power depends on the parallel development of the other powers, there are important and unpredictable exceptions. It is not true, for example, that a healthy body is always necessary for the existence of a vigorous mind. There are cases of great men in the arts and the sciences who, all their lives, fought against sickness; there have been persons eminent in a special field who were not rounded individuals. Human personality is enough of a mystery to preclude our making sweeping and rigid prescriptions.

Furthermore, the concept of the whole man is not adequate as an aim of education. The innate drives, the sentiments and force of will, are neutral, capable of developing in either direction, and may become antisocial unless they are "moralized," unless they are made to serve as tools in the hand of duty. The complete man must be a good man. Moral character arises from the molding of the native powers to ideal aims. The final secular good is the dedication of the self to an ideal higher than the self — the devotion to truth and to one's neighbor.

So far we have been dealing with general objectives. But teachers naturally ask what should be done in the school to implement these aims. We wish to make it clear that to adopt the above list

of the human powers is not at all to be committed to a comparable list of courses, as a part of formal instruction. There may or may not be courses in subjects such as health or manners, depending on the circumstances. Our point is that in a proper scheme of general education the mind will acquire the capacity to meet various particular and concrete problems in matters of health, human relationships, and the like. In this view the education of the mind leads to a maturing of the whole person. On any other view, the obvious danger is that schools will set for themselves so inclusive an objective, or perhaps one should say so many objectives, that their central and essential contribution will be neglected. The schools cannot do everything. When they attempt too many tasks, they sometimes fail to do any of them well. Other social institutions are concerned with helping the individual develop personal competence, while the schools have the special and major responsibility of furthering the growth of intellectual abilities. Our discussion of the qualities which go to make up the complete man is based upon the assumption that though these qualities are of the utmost importance, though they are, indeed, vital to the future well-being of our society, they are not the sole responsibility of the schools, and their cultivation must not stand in the way of developing those qualities for which the school bears the primary burden of responsibility.

However, the emotions and the will cannot be trained by theoretical instruction alone. Doubtless the three areas of knowledge, each in its own fashion, raise and discuss problems of human value. Yet values cannot be learned solely from books. Consider the case of social adjustment. Thinking is a solitary process, and in so far as education cultivates intellectual skills it is producing individualists. To be sure, thinking is stimulated by discussion with other people, but in the last resort one has to make up one's mind by oneself. Yet living is a coöperative process. Social adjustment is not something that just happens in the individual with the passing of years. One must learn to get along with other people just as one learns to use complex sentences. But the task of learning to get along with people is infinitely more difficult. Little children do not know how to get along with each other; a

teacher or some other adult must constantly control the situation. If adults lived with each other after the fashion of children and regulated their disputes as children do, we should never have had a free society. The child has much to learn before he can behave as an equal among equals or coöperate with strangers for a common purpose. While the family and the neighborhood teach many of the preliminary lessons, the main task is really tackled in the training ground of actual situations, especially those of adolescence and adult living.

But while we admit that general instruction is not enough for our purpose, we also call attention to the fact that the school as it stands is equipped to exercise an influence over its pupils through media other than formal teaching. The school is an organization in which a certain way of life is practiced. The pupil acquires a habit by the process of unconscious absorption; no sermon need be preached. A word of ridicule uttered by another pupil may produce the desired effect. Furthermore, the teacher can and does exert an influence on the student by his example as well as by what he says on the platform. In our specialized society the teacher may think it enough to teach a subject. But impressionable young people get from a teacher much more than subject matter. They judge every action. In some respects the young are exceedingly intolerant; they expect in their teachers perfection to which they themselves do not aspire but which they want to see exemplified in all those in authority over them. Teachers should be more aware of their influence in matters unrelated to their subject.

Finally, in the school the pupil takes part in the various activities. No one who has examined the early histories of schools and colleges with the tales of "cows in the chapel" and "rioting on the common" can have much regret that students now have more legitimate outlets for their exuberance. Nonetheless, it is true that we may pursue a good thing too far and encourage a tone of anti-intellectualism. Or we may, particularly in urban schools, provide insufficient activities, inducing mere bookishness.

Ideally, as the name implies, activities should mean putting into practice the theory of the classroom. In the previous chapter we

stressed the importance of the ability to make relevant judgments. Activities provide a means by which the abstract skills imparted in the classroom are made relevant to concrete choices and actions. The educational value of activities, such as it is, comes from the fact that habituation and experience are necessary for the development of any skill, including intellectual skills. Student government, within limits, is valuable in shaping the quality of later citizenship. It is only when the student faces the actual difficulties of governing by democracy that he begins to appreciate the complexity of a free society. To learn to resist pressure, to discover the power of a minority, to have free speech used against one, to prescribe rules and then to abide by them, is training of the first order for democratic living. The connection of the activities with the curriculum is easy to show in the case of the French Club, the Debating Society, the Glee Club, and the Forum. It is harder to illustrate when we come to managerial offices and to athletics. Yet there is no doubt that decisiveness, initiative, and coöperativeness can be stimulated in the student who has to cope with problems encountered in the running of an organization or in team play.

So far as the students are concerned, emphasizing the importance of activities is bringing coals to Newcastle. What is needed is a proper balance between the values of intelligence and the other human values. Extracurricular activities must be thought of, not as something apart from the classroom, but as an extension of it. Yet to administer these activities formally is to deprive them of a good deal of their value, which after all lies in the fact that they are the spontaneous expression of students. Conversely, something of the spirit of the activities should be communicated to the student's classroom work. The difference between courses and activities is apt to correspond in the student's mind to the difference between duty and pleasure. Of course it would be foolish to expect young people always to love learning to the same degree that they love sports. Yet with the proper school atmosphere it should be possible to inject some of the zestfulness of activities into studies. It has been said that our businessmen, prospecting among school or college graduates for future em-

ployees, are chiefly interested in the student's proficiency in activities and not in courses. Whether this be true or not, we submit that the educational authorities should not abdicate their standards because of any pressures from the public. The school serves the community primarily as a leader in cultural standards. The great danger is that there should be two sets of values in the school — intellectual and practical — moving as it were on parallel tracks and never meeting.

The atmosphere of the school, the informal role of the teacher and the activities — these are all media by which practice and habituation supplement the work of formal instruction in the school. We must emphasize that rational explanation should accompany or follow habituation; that, in short, mere habituation is not enough, as the case of language may show. On the one hand, it is true that one does not know a language adequately if one knows its grammar and vocabulary only; one must be able to use the language and speak it with something of its peculiar idiom. On the other hand, it is also true that a street Arab who can speak his native tongue fluently is not because of that fact to be regarded as educated in language; and linguistic proficiency will become firmer when accompanied by an understanding of the formal structure of the language. Nor is social adjustment only the habitual facility of getting along with other people; it is also and essentially the understanding of other persons — of their desires, capacities, and valuations. Poise comes from an inner reserve, from a clarity and conviction as to purpose. Without these, personal force is apt to degenerate into that flashy and indeterminate quality miscalled "personality."

Have we exhausted all the potentialities of the school in the preceding account? No, not wholly. When the curriculum, the pervasive atmosphere of the school, and the activities, having done their best, still fall short of expected results, then the school must have recourse to types of instruction in specific subject matters. There is a difference between implicit and explicit instruction. By the former we mean indirect instruction, as when a student acquires skills of thought and communication from courses in general education, or acquires initiative and resource-

fulness from his participation in sports. The normally intelligent youth will be able to draw his own conclusions, carrying over into particular cases the spirit of his whole training. But there are those who must be told specifically and explicitly. For instance, while many pupils will be able to absorb relevant knowledge about health from the general course in biology and other allied courses, others will need explicit instruction in personal hygiene. Again, while some will learn manners by contagion from the established practices of the school, there will be others who will have to be told the rules of polite behavior in so many words. A school serving a community of first-generation immigrants may have to introduce courses on the American way and on American standards of living. However, such explicit instruction should be regarded as remedial and as peripheral to the curriculum. Because the circumstances vary, no uniform list of such special courses can be given, but some suggestions may be made.

Education is not complete without moral guidance; and moral wisdom may be obtained from our religious heritage. By law and by custom little sectarianism is now to be found in the great body of American schools and colleges. However, much of the best tradition of the West is to be found in the distillations of the prophets, in the homilies and allegories of an earlier age, and in Biblical injunctions. These are not the property of a sect or even of Christians; they constitute the embodiment of experience on the ethical plane which is, or should be, the heritage of all.

It is clear that physical health is a gift bestowed by heredity and confirmed for the individual by the care given to him in his early years. But the role of the school in the development of health may be decisive. Although the first responsibility in this matter rests with the family and the community, in some places the schools must assume the task of giving direct instruction in health, personal or civic. For many young people the elementary facts about diet, rest, exercise, drugs, and disease will have to be learned away from home if they are to be learned at all. Such instruction may make the difference between a debilitated and a healthy community. The subject may take time from other pursuits of more central intellectual importance. But no educa-

tional or social system is sound unless it rests on solid physical foundations.

In an earlier section we spoke of the importance of shop training for students who intend to go into scientific or technological work. Such experience is important for the general education of all. Most students who expect to go to college are now offered an almost wholly verbal type of preparatory training, while hand training and the direct manipulation of objects are mainly reserved for the vocational fields. This is a serious mistake. The bookish student needs to know how to do things and make things as much as do those students who do not plan to take further intellectual training. The direct contact with materials, the manipulation of simple tools, the capacity to create by hand from a concept in the mind — all these are indispensable aspects of the general education of everyone. In some schools pupils receive such training in the elementary grades. Other students gain such experience outside of school; but for those who have had no experience in the use of tools, a high-school course may offer the only possibility.

In modern society, where few children automatically follow their fathers' vocations, the school must inevitably give some help in choosing a career. Any treatment of American society should acquaint students with many sides of the conditions which they will have to face. Yet some students will need more detailed information about the requirements and possibilities of various *kinds of work. Formal course instruction is of doubtful value* for this purpose, which can be better served by individual guidance and by the provision of suitable reading in the school library.

Beyond the knowledge of future work, the student needs an experience in actual work. Clearly the school itself cannot be expected to provide this experience in any formal way. Yet it is beneficial for all, even more so for those who expect to enter business or one of the professions than for those who will engage in some form of manual or craft work. It is important that this experience be of such a kind as to contribute to the total productivity of society, although it need not be manual labor. In other words, it is desirable that it be genuine, rather than made, work.

We repeat that we are thinking here not of any formal school requirement but of what is necessary for the maturing of a young person.

It is obvious that our account of education in its bearing on the entire human being presupposes a general theory of human nature and of human values. It is equally obvious that in the nature of the case such a theory had to be assumed rather than explicitly formulated in this report. A contrast with current tendencies may help clarify our views. In a natural reaction against the inherited type of formal and bookish learning, educational practice has tended to swing to the opposite extreme and to replace the traditional courses of the curriculum with highly specific and practical courses. The danger here is that training is being substituted for education. More recently a reaction to the reaction has appeared, which would place great books in a central, even monopolistic, position and which tends to identify education exclusively with cultivating the ability to think. We have taken a position somewhere between these two. We have stated that education looks to the whole man and not to his reason alone; yet we have maintained that the whole man is integrated only in so far as his life is presided over by his reason. While we thus regard the cultivation of the mind as the chief function of the school, we view reason as a means to the mastery of life; and we define wisdom as the art of living. We have stressed the importance of the trait of relevance; and we have urged that, while in school, the pupil should be helped to see beyond conceptual frameworks and make concrete applications. Yet since the school by its nature cannot reproduce the complexity of actual life, a merely functional approach to teaching is inadequate also.

An extreme and one-sided view easily calls attention to itself and gains fervent adherents; but a balanced view is apt to be less immediately striking. Reasonableness does not lead to exciting conclusions because it aims to do justice to the whole truth in all its shadings. By the same token, reasonableness may legitimately hope to attain at least to part of the truth.

CHAPTER V

General Education in Harvard College

IN previous chapters we have discussed the aims and the basic problems of general education. We have also suggested possible applications of our views to the secondary schools, although in so doing we were keenly aware of the impossibility of presenting a single neat pattern according to which they should all be organized. Our task in this chapter is to cross the divide that separates the general from the specific, and to discuss with some particularity the application of our views to Harvard College. In the pursuit of this task we shall necessarily be concerned with many aspects of the complex structure and organization of a single university.

While we believe that a discussion of a single college is far from irrelevant to our main theme, we wish to leave no doubt that the recommendations made for Harvard in this chapter are not specifically intended for other American institutions of higher learning. If it is necessary to recognize wide variations among schools, it is equally necessary to recognize the even greater variations among colleges. The simple structure of elementary education in America becomes more complex at the secondary level and divides into an enormous diversity at the college level. This variety is the product of circumstances which are still at work, which may lead to an even greater diversity during the next generation, and which would make any attempt to impose a single program of general education upon all colleges futile.

It is probable that many persons, including a sizable proportion of the teachers in the colleges, continue to approach all problems of higher education as though the term, college, had a single specific meaning throughout the United States. Such a view, to

the extent that it still exists, is an anachronism which stands in the way of any realistic analysis of the problems of higher education. A brief survey of the principal varieties of the genus college in America may help to make clear why we are confining our discussion of the higher learning to a single institution.

I

Types of Collegiate Institutions

CHRONOLOGICALLY, the first of the institutions of higher learning in America are the liberal colleges. These may be independent institutions or parts of a university. Some of them are coeducational, some are for one sex only. Their distinguishing characteristics are that they ordinarily require four years or the equivalent for the bachelor's degree and that they are not primarily vocational in character.

During the last three generations there has been a rapid growth of undergraduate vocational colleges. These, like liberal colleges, ordinarily require four years for a degree, but they provide a primarily vocational training rather than one devoted largely, if not entirely, to the humanities, the social sciences, mathematics and the sciences. The vocational colleges include those preparing for the professions of engineering, agriculture, and teaching, as well as the many undergraduate colleges of business. They may be independent or parts of universities. Many of them are combined with a liberal arts college, both ordinarily being parts of a large university. This has been particularly true of schools of business and of education, and in such cases the first two years are ordinarily spent in the liberal arts college of the university, after which time the student transfers into the vocational college for his last two years of work.

The present century has likewise seen an enormous growth of junior colleges. These are two-year colleges which may be either vocational or liberal in emphasis; they usually offer terminal vocational courses as well as courses in the humanities, social sci-

ences, and sciences. The present movement for the establishment of technical institutes is but the most recent variation in what is apparently a major development in American education, these technical institutes being junior colleges with a predominantly vocational emphasis.

The fourth variety of institution is the vocational school which follows high school but lacks a clearly recognized standing either as a junior college or as a four-year college. This category includes most of the proprietary business colleges, nurses' training schools, and the trade schools and other similar institutions which require high-school graduation for entrance but do not aim to do work of the breadth that is expected of college students.

In all these institutions except liberal colleges general education is usually confined to the first year or two or is omitted altogether. Their major commitment to special or vocational education requires them to make competent engineers, nurses, farm managers, accountants, dental assistants, draftsmen, or secretaries in a period of time which seems always too short. There are so many skills to be learned, so much technical knowledge to be acquired, and the penalty for the lack of them is so direct and sure for the young graduate in his first job, that the claims of general education are either denied altogether or are grudgingly recognized and pursued in a half-hearted fashion in a few survey courses.

During the last few years the leaders in vocational education at the college level have themselves begun to state with emphasis the case for more attention to general education. Thus a recent report of the Society for the Promotion of Engineering Education recognizes the inadequacies of an exclusively technical education and suggests that much greater attention be given in the education of future engineers to many of the subjects which have no immediate relation to engineering. It is interesting that the report seems particularly concerned about the small amount of aesthetic training given to engineers and with their lack of information about, and participation in, public affairs, both civic and philanthropic. Just what effect this point of view will have upon the vocational colleges remains to be seen, but we heartily

agree that it would be a very great loss to society if those persons who are leaders in scientific research and in technology are at the same time most laggard in cultural interests and in civic responsibility.

Junior colleges and the technical institutes ordinarily make at least a gesture toward general education. Most of them set aside a third or a half of a two-year vocational curriculum for liberal courses. Somewhat more comprehensive requirements in general education are to be found in the two college years which precede the vocational years of undergraduate teachers' colleges and schools of business administration. Only in the fourth category, the vocational or trade school not of collegiate standing, is general education sometimes, though not always, altogether neglected.

But it is obvious that liberal colleges should not be the only higher institutions concerned with what may properly be called the ends of human action. The capacity to think objectively, to communicate, to discriminate among values, and to make relevant judgments, is as desirable for young people who attend junior colleges and trade or professional institutions as for those who devote four years to a less definitely vocational training. But it is also obvious that the variety of colleges makes a single prescription impossible, and there necessarily will be differences both in the amount of time devoted explicitly to general education and in the nature of the offering designed to achieve it.

2

General Education in Liberal Colleges

EVEN among the liberal colleges there has developed an increasing amount of diversification, so much so that it is often difficult for a student to transfer from one of these colleges to another and to carry on work of the kind earlier begun. Without attempting a comprehensive description of these various experiments, a brief characterization of some of them may help to throw light upon

certain of the problems involved, as well as to give perspective to our discussion of Harvard College. It may be said that there are now five major approaches to the problem of general education in these colleges: (1) distribution requirements, (2) comprehensive survey courses, (3) functional courses, (4) the great-books curriculum, and (5) individual guidance.

The first of these is the most widely used. It came in as an attempt to ameliorate some of the shortcomings of the elective system, and it consists of requirements concerning how, in the interests of breadth, a student should distribute a portion of his courses among the various areas or departments. Sometimes it includes the prescription of one or two or three courses or subjects. Sometimes it merely requires courses in particular fields or areas.

Those colleges which have become dissatisfied with distribution requirements have most often substituted a set of survey courses in humanities, social sciences, and physical and biological sciences. These courses usually demand about half of the student's time during the first two college years, although they occasionally demand all or nearly all of it in those years. They have proved administratively feasible and are now widespread. There are enormous differences among such courses in choice of material and manner of treatment. We shall have more to say about them later.

The term, functional, has been given to courses which deal explicitly with some important phase of active life, such as maintaining health, choosing a vocation, managing and raising a family, or buying goods and services wisely. The analysis of the human being given at the close of the last chapter might be taken as a basis for a set of functional courses. The required "core" program at the General College of the University of Minnesota is of the functional type. The recent report of the American Council on Education, entitled *Design for General Education*, describes four such courses: personal and community health, problems of social adjustment, marriage and family adjustment, and vocational orientation.

The great-books program has received wide publicity, espe-

cially following its adoption by St. John's College. It means spending four years in the study of approximately one hundred great books of the Western tradition, supplemented by ancient and modern languages, mathematics, and laboratory science. The four years are entirely prescribed; there are no electives and no specialization. A number of other colleges give courses in humanities or literature in which a few of the more literary and philosophical of the great books are read, but they otherwise depart fundamentally from the principles exemplified in the St. John's curriculum.

The phrase, individual guidance, is used here to describe the programs of such colleges as Bennington, Sarah Lawrence, and Black Mountain, where the first year or two of the student's program is given to a number of elective courses chosen by the student for exploratory purposes. The theory is that the student will try out a number of interests to discover which are deep enough to serve as foundations for later work. Once the student has found a really genuine intellectual interest, his college program is planned around this central interest. The resultant program may be very broad or it may be similar to concentration in a more conventional college. There is an important difference between this approach and that of the old elective system. The exploratory courses are purposely left small so as to give the student intimate contact with the teacher. A tutorial or advisory system brings the young student into regular conferences with a member of the faculty who is given a considerable amount of information about the student. Thus the student's program, as it takes shape, may be almost as much under the supervision of the faculty as if it were prescribed.

All of these approaches to the problem of general education are evidences of some degree of dissatisfaction with the elective system, but beyond that they have little in common. There is a very great spread between the entirely prescribed curriculum at St. John's and the more conventional system which gives relatively great freedom of choice. Rather than attempt to pass judgment upon these various proposals we prefer to recognize the value of the era of experimentation, to express the hope that

experiments will continue, and to confine our further discussions of general education in the colleges to one particular institution, Harvard College.

3

The Present College

HARVARD'S present structure and condition is the ground on which we must build, the context within which we must plan. We may begin with a most important consideration, Harvard's present size. It is a large institution, and it is one part of a much larger university. A number of years ago the size of the entering class was set at 1000; it has not always been held to this limit. The total number of undergraduates in the years immediately preceding the present war ranged between 3500 and 3600.[1] The Faculty of Arts and Sciences, which is responsible for both graduate and undergraduate instruction, numbers more than 300 above the ranks of teaching fellow (predoctorate) and annual instructor. The number of distinct courses offered to undergraduates is normally more than 400. Even during the war, despite large defections in staff and students, the undergraduate offering did not fall below 300.

Harvard draws its students from all sections of the country, all types of schools, and virtually all economic levels. Year by year the student body samples more and more thoroughly all strata of American life. This tendency is fostered by a carefully considered and active policy which allows promising students to enter, or through scholarships brings them to Harvard, from virtually all walks of life. The percentage of freshmen admitted to Harvard from New England has dropped steadily through the years to a present 48 per cent. An additional 24 per cent come from the Middle Atlantic states, 14 per cent from the northern Middle states (Indiana, Illinois, Michigan, Minnesota, Wisconsin,

[1] Harvard University numbered, in the same period, some 8000 students in all its divisions.

and Ohio), and about 3 per cent from the Central states (Iowa, Kansas, Missouri, Nebraska, North Dakota, and South Dakota). Four per cent are from the South, 4 per cent from the Far West, and 3 per cent from the Territories and from foreign countries. In the entering class of 1944, 490 schools were represented, 244 of them public schools. About half the students in Harvard College now come from public schools. Their entrance from virtually all types and sizes of public schools throughout the country is fostered by a flexible and liberal admissions policy, to be reviewed below.

Harvard's policies have also succeeded in greatly broadening in recent years the economic base from which students are drawn. During 1940–1941 the financial assistance awarded to undergraduates exceeded a third of a million dollars. This sum is equivalent to almost one fourth of the total college receipts from tuition. Particularly the National Scholarship Plan, though it involves relatively small numbers of students of high promise, has been administered to further these trends. About three fourths of the national scholars come from public schools, predominantly in the Middle West. Roughly three fourths of them come from families with annual incomes of less than three thousand dollars, about a third from families with incomes less than two thousand dollars.

In recent years capable students have been able to enter Harvard with almost any type of educational background provided in this country. Prior to 1942 candidates for admission were offered a choice between two plans of examination; those coming from distant places might under certain conditions enter without any examination. In addition to Plan A (Old Plan), under which the candidate took a series of separate College Entrance Board examinations in prescribed and elective subjects until the whole quota of admission requirements had been completed, the prospective student might apply under Plan B (New Plan). This latter plan placed great stress upon the school record and the principal's recommendation but did not specifically prescribe the content of school studies other than English. Under Plan B the candidate was required to take at the end of his last year in

school four College Board examinations of the comprehensive type in addition to the scholastic aptitude test. One of the examinations had to be in English; the other three were chosen from a list of about a dozen subjects. Applicants from areas outside the northeastern seaboard also might enter Harvard without examination, provided that they ranked in the highest seventh of a class numbering at least seven during their last two years at school.

Since 1942 the former type of College Entrance Board examinations has been given up because of the complications involved in the examination and admission of new freshmen three times a year. At present the special objective aptitude and achievement tests of the College Entrance Examination Board, taken in a single day, formerly required of scholarship candidates alone, are used for all candidates for admission. The scholastic aptitude test contains both a verbal and a mathematical section. The general achievement test consists of nine sections (English, French, Latin, German, Spanish, physics, chemistry, biology, and social studies), from which the candidate for admission may choose any three. Consequently, every boy is tested on a basis which nearly all types of schools meet and to which the programs of practically all students can be fitted. Special emphasis is placed upon the school record and upon the principal's recommendation. It may be fairly stated, therefore, that Harvard puts virtually no prescriptions in the way of able students seeking admission, except, of course, those relating to aptitude and to high-school achievement.

We have already mentioned the undergraduate curriculum of more than four hundred courses. We may now inquire into its existing elements of design. A concern with liberal and general education is not in any sense new at Harvard. It has been the object of continuous scrutiny and revision these many years. The entire undergraduate curriculum was reviewed comprehensively by a faculty committee, and new regulations were instituted by the faculty as recently as 1940–1941. What we possess in this regard, therefore, exists by intention and design, not by accident or default. We shall appraise it in this light.

Over a considerable period the tendency of the Harvard faculty, for what have been considered adequate reasons, has been to prescribe only the most general outlines of the educational structure, leaving the widest latitude as to its content. Probably the most striking characteristic of the present curriculum is precisely this: there is virtually no prescription except of form, and even this is extremely flexible. The student at all points is presented with an extraordinarily broad choice of content. There is at present no course required of all undergraduates at Harvard. The only course prescribed at all by name is one in English composition, English A. It must be taken by all students who have not demonstrated proficiency in the use of English by direct examination.

Beyond this, the only direct prescription of content at Harvard is a reading knowledge of a single foreign language, determined by passing either an examination or an intermediate language course. This requirement may be satisfied before entering college by passing the appropriate achievement test of the College Entrance Examination Board with a certain grade. Until lately this requirement specified French or German. In a recent accession of global sentiment the faculty expanded it to include Latin, ancient Greek, Italian, Spanish, Russian, Chinese, Japanese, and Arabic.

Of the total curriculum, sixteen courses are required for the bachelor's degree. Two degrees are at present offered, the A.B. and S.B., the requirements for them differing only in the school, or occasionally college, preparation in ancient languages.

The entering freshman, with the aid of his faculty adviser, makes a first choice of studies among a list of courses "regularly open to freshmen." At the present time about forty-eight distinct courses are so listed, actually eighty-four half-courses, most of which form paired sequences, distributed among twenty-one departments. This can scarcely be considered a restrictive prescription. But even this is by no means binding. Students who enter Harvard with good school preparation are permitted to engage directly in more advanced courses. About a third of the freshman class take advantage of this opportunity.

Toward the end of the freshman year, in consultation with his adviser and a representative of the field of his choice, the student selects a field of concentration, to which at least six of the sixteen courses offered for the degree are to be devoted. At present thirty distinct fields of concentration are listed, a number which may be increased by special combinations. No more than two courses in the field of concentration may be of definitely elementary grade. This prescription is intended to ensure that every student acquires at Harvard a reasonably penetrating experience in one area of learning.

A further prescription is designed to assure some breadth of general education. Until recently all students were required to take at least four courses of distribution: courses falling outside the area of concentration. Certain elementary language courses, including English composition, could not be offered for distribution.

In 1941, new requirements were adopted by the faculty as a result of the study alluded to above. These further liberalized the existing rules. All courses offered by the Faculty of Arts and Sciences were divided into three areas, further subdivided into eight sections. Two sections form the area of natural sciences; two that of social studies; and four the area of arts, letters, and philosophy. Certain courses in elementary language (including English A) and composition, public speaking, and military and naval sciences are excluded from all sections and areas. The rule is that each student's program must include at least one course from each of four sections, and that all three areas must be represented. In order to discourage excessive specialization it is further required that the total program of each student contain at least six courses outside any one section. One course in military or naval science may be substituted for a course in one of the four sections, provided that the remaining three sections represent all three areas.

The extreme flexibility of this provision must be emphasized. A single section in the area of social studies includes the entire curricular offerings of the departments of economics, government, psychology, and sociology, together with most of anthro-

pology. A single course in mathematics can dispose of an entire section which includes all of mathematics, astronomy, chemistry, engineering sciences, and physics. A single course in the history of science or of religion satisfies the prescription in a section which includes all types of history taught at Harvard.

This is, then, the present state of educational prescription at Harvard: one prescribed course in English composition for freshmen who cannot demonstrate their proficiency; a reading knowledge in one of ten languages, ancient or modern; a freshman curriculum which limits, though not finally, the choice to about forty-six courses; a choice of concentration among thirty-two fields, many of them further subdivided; a prescription of general distribution so wide as to include in most of its sections the entire curricula of several departments.

This remarkable catholicity of choice is reserved for general education and for the election of a field of concentration. Once the latter has been chosen, a program of genuine, even detailed, prescriptions may come into play. The several departments ordinarily have definite ideas of what is to be included within the immediate scope of their interest. They make rigorous demands upon the student's activities and time; and in the absence of virtually all definition of content in general education, concentration inevitably dominates the curriculum.

One result is that many undergraduates go to considerable lengths of specialization at Harvard. A feature of the present curriculum which lends itself to this tendency is the very sketchy separation between graduate and undergraduate courses. In each department courses are divided into a group primarily for undergraduates, a middle group for both undergraduates and graduates, and a group primarily for graduates. In most departments the middle-group courses form much the largest section. Properly qualified undergraduates find little difficulty in entering even those courses primarily designed for graduate students. The wholesome result is that undergraduates regularly find themselves in direct competition with graduate students in advanced courses in all fields.

Concentration culminates in the General Examination. This is

normally required, ordinarily in the last year in college, of all students concentrating in any field except chemistry and engineering sciences. The General Examination is designed to test a student's understanding of the entire field in which he concentrates. Unless a student can demonstrate in this examination that he has mastered the subject of concentration as a whole, he is ineligible for the degree, whatever his record in courses.

As stated above, at least six courses are regularly required for concentration. Superior students, however, ordinarily take an honors program. This may demand further courses in the field of concentration, as well as the submission of an honors essay or thesis based upon special reading or original research.

This brings us finally to what is often regarded as the most distinctive element of present Harvard education, the tutorial system. Students in fields in which General Examinations are given ordinarily are tutored from the beginning of their sophomore year. The tutoring is done by a member of the field of concentration and is usually restricted to the area of this field. The departments vary greatly in the stress laid upon tutoring and its integration with more formal types of instruction. Some of them employ primarily predoctorate teaching fellows for tutoring; others use the full facilities of their senior staff. Some departments stress the importance of tutorial instruction; others give it no definite place in the curriculum. The role of the tutorial system in the general pattern of Harvard education will be discussed later. It will be enough here to note that at present it forms part of the system of special rather than of general education and in certain instances makes a notable contribution to the success of the concentration program.

Whatever vagueness may at present attach to general education at Harvard, therefore, the system of concentration is clear, definite, and full of content. An impressive battery of educational machinery is arrayed in its support: the teaching departments, prescribed courses, the system of honors, the tutorial system, and the General Examination. It offers the able and enterprising student an opportunity for a remarkably penetrating experience in the field of his choice. On the whole, concentra-

tion has been a distinct success at Harvard. In striking contrast, general education at Harvard is at present dismissed with a vague exhortation on its desirability and the essentially negative prescription that beyond his area of concentration the student take two or three courses of something – almost anything.

It may seem that we have been discussing general education solely in terms of subject matter, forgetting the values and qualities which it seeks. We do not mean to suggest that the distribution rule has been the only influence tending to promote the general education of Harvard students. To repeat what was said in Chapter II, general education is distinguished from special education not so much in terms of subject matter as in terms of method and outlook. It is erroneous to conclude that because Harvard College requires no subjects to be studied by all students that it, therefore, offers no training in the essentials of general education. It is clearly of much more importance that honest thinking, clearness of expression, and the habit of gathering and weighing evidence before forming a conclusion be encouraged than it is that students be required to take any particular group of introductory courses. We believe that there are altogether valid reasons for requiring students to have some things in common, but the reasons for a common body of learning and of ideas should not be confused with the quite different reasons for an approach to learning more conducive to the objectives of a general education than are courses designed primarily for specialists or would-be specialists.

Under the system which requires a certain amount of distribution of courses, the student usually takes, in addition to those courses in his major or concentration field, a number of introductory courses in other fields. Such courses have ordinarily been planned, organized, and taught primarily for those students who intend to take additional courses in the same field. Rarely have they been organized or taught for those students whose study of the subject ends with an introductory course. Frequently they have given excellent training in thoroughness and in detailed analysis within the range of a somewhat professionalized introductory course, but they have not often overcome the narrow-

ness which is an inevitable aspect of academic departmentalization and they have not often provided an insight into the relationships of ideas and of bodies of learning. They have, in other words, not been designed primarily for the purposes of general education. Their contributions to general education have ordinarily been incidental or even accidental rather than primary and intentional. Those who have taught them have been more concerned with the learning and the internal logic of their special field than with the relation of their materials to any general pattern of ideas or of information. Even so, their contribution to general education has often been considerable, and we are encouraged to believe that if courses which are only incidentally designed for the purpose of general education prove valuable for it, courses specifically designed and taught for that purpose will be even more valuable to students in giving them training in methodical thinking and discrimination, in the arts of communication and in the ability to make relevant judgments, as well as in helping them develop a frame of reference within which the relationship of general ideas takes on a more significant meaning. They will also furnish them with some common body of information and ideas.

In the preceding sections of this report we have said relatively little about general education as common education, if only because that aspect of it has too often been regarded as its principal, if not indeed its sole, justification. We have also been conscious of the disparities in the needs of students and schools, and have hesitated to advocate a common education which might prove to be unprofitable for a large proportion of those who would be subjected to it. But when we come to deal with a single college, it seems desirable to talk about general education not only in terms of the qualities which it seeks to elicit, but also in terms of the unifying influence which it can become.

The present system of concentration and distribution in Harvard College affords rich opportunities for specialization and, therefore, for differentiation. But it is weak indeed in the opportunities it provides for the development of a common body of information and ideas which would be in some measure the

possession of all students. There has been, in other words, no very substantial intellectual experience common to all Harvard students. It would seem clear that communication on an advanced level is impossible unless those who are seeking to communicate with each other have some common body of knowledge and ideas, as well as some common training in the analysis of values and of relationships. The undergraduate, whether he be a concentrator in the sciences, the humanities, or the social sciences, should be able to talk with his fellows in other fields above the level of casual conversation. He should share in a common awareness of the importance of ideals and objectives, in a common understanding of the heritage which is the possession of his generation. Nor will general education at the college level have been entirely successful unless the student has acquired some understanding of what is common to all fields of learning, as well as some understanding of the principal respects in which their aims and their methods differ.

It does not follow from this argument that the system of concentration should be abandoned. The committee has given consideration to certain programs which call for an entirely required curriculum, but it has no disposition to recommend the adoption of any of them. We believe that there are unquestionable educational values to be gained from pursuing a subject well beyond its elementary stages. The much criticized departmentalization of the colleges is but a product of the enormous growth and specialization of learning during the past two or three generations, and it would be entirely unrealistic and out of keeping with the growth of higher learning in modern times to propose that this differentiation should be supplanted by an organizational scheme unrelated to the existing specialization and diversification.

We conclude, then, that general education has been neglected in Harvard College, but we do not conclude that specialization should be abolished. It is of great educational importance that students be allowed to acquire something approximating a mastery of a particular segment of learning. There is no other device which provides quite the same educational values, no other which gives, at least to the more serious student, a comparable feeling

of satisfaction in exchange for good and honest work. The system of concentration, moreover, allows for the great variations which exist even within a single college in background, in intellectual aptitudes and interests, and in professional intentions. But it is unnecessary for us to discuss the system of concentration at length; the whole tendency of academic organization favors it. We do, however, recognize that there are many teachers who believe that concentration has been carried to excess in certain fields. We suggest that this criticism should be faced more squarely in the future than in the past.

If the committee favors the continuation of concentration, it also believes, to repeat, that the importance of training which is common to all students and of training which seeks explicitly and exclusively to achieve the aims of general education has been neglected. The claims of general education should be presented as clearly as the various departments press the claims of each of the fields of special learning, and to this end we shall recommend not only the adoption of certain requirements which the student must satisfy, but also that an agency be established within the faculty which will guard the interests of general education as the individual departments at present guard those of special education.

Before discussing the nature of our proposals for general education in Harvard College and the structure of such an agency, it may be well to say that we see no need for a radical change in the over-all course requirements for the bachelor's degree. Certain specific proposals will be made later in this chapter, but they do not contemplate altering the number of years ordinarily required for the degree, or the number of required courses. The experience of the past three years has indicated the limitations of an accelerated degree. The speed-up is perhaps adapted to the acquisition of certain skills or bodies of information intended to be put to immediate use. When the aims of education cannot be stated in terms of such skills or such immediacy, the value of intensive instruction pursued twelve months in the year becomes extremely doubtful. We have seen many students pass through such a system under the necessities of war, but most of them, and

particularly those whose course and examination records indicated high competence, have felt that they were losing many of the values of college training as a result of the brevity and the hurried character of their residence in college. This experience with a speeded-up program has served to strengthen the conviction that growth in intellectual and emotional maturity is of the highest educational importance, and that the development of such maturity cannot ordinarily be hastened by an accelerated curriculum. It is probably true that many of our students could be brought to a more mature level of intellectual and emotional understanding at a somewhat earlier age, but this can be accomplished by the provision of more adult materials for study, by more rigorous standards, by a richer experience in extracurricular activities, and, even more, by work or travel or other pursuits undertaken entirely away from college, rather than by any such specious device as is involved in a slight increase in the length of the college year or in the number of courses taken. Experience of the war years reinforces the argument for the taking of four substantial, rather than five or six thinner and more compressed, courses.

This is not to say that there should be no exceptions to the four-year degree. There are students and there are circumstances for whom and under which a three-year degree should be made possible. It is scarcely for us to discuss this problem at any length, but we believe that it is one which may well be considered at greater length in the future. We suggest that there be careful consideration of the relation of summer school to the work during the regular college year, with particular emphasis on the types of subject matter and on the methods of instruction which can be most profitably employed in such relatively short terms. While the wartime experience with the accelerated degree has indicated that acceleration has many limitations, wartime experience with intensive language courses has supported the belief previously held by many teachers that languages can be most satisfactorily learned, at least for tool purposes, by intensive study over a short period of time rather than by the traditional three hours a week spread over one or more years. It seems safe

to assume that much the same conclusion will be found to be correct for other subjects, while there will be some in which essential values will be lost by intensive cultivation rather than by a method which allows more time for reflection.

4

Proposed Requirements in General Education

GENERAL and special education are not, and must not be placed, in competition with each other. General education should provide not only an adequate groundwork for the choice of a specialty, but a milieu in which the specialty can develop its fullest potentialities. Specialization can only realize its major purposes within a larger general context, with which it can never afford to sever organic connection. General education is an organism, whole and integrated; special education is an organ, a member designed to fulfill a particular function within the whole. Special education instructs in what things can be done and how to do them; general education, in what needs to be done and to what ends. General education is the appreciation of the organic complex of relationships which gives meaning and point to the specialty. To some degree it should suffuse all special education. Every course given in Harvard College, however specialistic, should make some recognizable contribution to general education. To the degree that it fails to do this, it has failed to make its best contribution to the specialty as well.

We wish to avoid a system in which general education is carefully segregated from special education as though the two had nothing in common. But if there be no separation at all, if general education be left entirely to courses taught from a special or technical point of view, or with a special, sometimes vocational, end in mind, then general education must suffer even though almost any first-rate specialization promotes in some measure the ends of general education.

We should have some courses in the college which seek to

fulfill the aims of general education exclusively and not incidentally, courses which are concerned with general relationships and values, not with the learning and the technicalities of the specialist. We do not propose that these courses should all be taken at one time, or even in one period of the college career. It would be a mistake to set off a certain period for general education, leaving the remainder for nongeneral education, as though general education ceased at a certain point and had no relevance to subsequent study. General education should not be limited to a block of courses which the student is to take and get over with in order to go on with the more interesting and significant special study. It should be a pervasive and a lasting influence as well as a set of course requirements. It is with that aim in mind that we propose the following program.

This committee proposes that of the sixteen courses required for the bachelor's degree students should be required to take six courses in general education. In any individual program no such course may be counted for both concentration and general education. Of the six courses, at least one shall be in the humanities, one in the social sciences, and one in the sciences. In the first two of these areas a particular course will be designated and required of all students. These courses will be described in a following section of this report. The prescribed courses in the humanities and the social sciences would be expected to furnish the common core, the body of learning and of ideas which would be a common experience of all Harvard students, as well as introductions to the study of the traditions of Western culture and to the consideration of general relationships. In the area of the sciences it is proposed that there be established alternative courses to meet the needs of those students who come to college with marked divergences in their preparation and plans for special study, as well as with disparities in their competence in dealing with mathematical and scientific material.

In addition to these introductory and required courses in general education, we propose that a student be required to take three further courses in general education. (It is understood that both of the introductory courses in science described later in this

chapter may be counted toward the general education requirements.) No one of these additional or second-group courses shall be in the student's particular department of concentration, although one of them, and only one, may fall within the broad area in which he is concentrating. There will thus be a considerable range of choice among the second group of general education courses. This choice will, however, be confined to the courses approved by the proposed Committee on General Education as fulfilling the aims of general education. Courses narrowly specialistic in character thus would be excluded from those satisfying these requirements.

It is proposed, moreover, that the introductory courses will not be the only new courses established for the purpose of general education, but that there will be a number of other new courses designed not to fill the needs of specialized training or concentration, but rather to achieve the aims of general education. Several possible courses are discussed later in this chapter. No one of these would be required of all students, although it would clearly fall within the jurisdiction and responsibility of the Committee on General Education to recommend any course or courses which seem to it particularly valuable for the objectives of general education. It is believed that there are now to be found in the offering of the Faculty of Arts and Sciences a number of courses suitable for the purposes of general education, or which could with some modification be adapted to those purposes. The Committee on General Education would have authority to include in its list of courses which would fulfill the general education requirements courses now offered by departments or divisions, or courses which might in the future be offered by existing agencies of the faculty, as well as courses sponsored by the committee itself. It is believed, further, that there are members of the faculty who would be glad to have the opportunity of offering courses fulfilling these requirements, and that the committee should consider and perhaps sponsor the giving of such courses.

It should not be assumed that all of the courses designed for the general education requirements or sponsored by the Com-

mittee on General Education would be mammoth introductory, and certainly not survey, courses. The first group of required or, as in the case of the two science courses, alternatively required courses would, it is true, be very large, although they would not be what is understood ordinarily by survey courses. But, in the second group of general education courses, it is believed that many of them would be relatively small, in some instances confined to students with special qualifications. It is hoped that some would be House conference courses of the type being experimented with when the exigencies of the war calendar and the departure for war service of many instructors prevented the continuation of what held promise of becoming a very interesting development.

It is suggested that the required courses in the humanities, the social sciences, and the sciences shall be taken during the first two years of college. Under most circumstances it will be desirable for the student to take two of these courses during his freshman year and the third during his second year. The broad scope of these courses would be particularly helpful to the student who is preparing to choose a field of concentration. It is believed that the remaining, or second-group, courses in general education would not have to be taken at any particular time. It is, indeed, proposed that most of them will be taken in the junior and senior years when the student is more mature, in command of a larger vocabulary and a greater body of learning, and is able to appreciate on a more advanced level some of the principles, values, and relationships which are of special importance in the promotion of the aims with which we are concerned. General education should not be confused with elementary education.

The problem of English composition is one which has perplexed most faculties. Virtually all college teachers will agree that students should have a sound training in the essential techniques of English composition in high school, and that they should there have developed some facility of expression; that, in other words, they should come to college prepared to go ahead without the necessity of learning, or even of reviewing, the essentials of spelling, grammar, and syntax. We realize that composi-

tion is a never-ending discipline which can be only begun in schools and must be continued in college. But most college teachers, and this seems to be true in virtually every country, complain that the high schools do not equip their students with the capacity to write their own language clearly and grammatically, and that, therefore, the colleges must do a kind of work in composition which the schools should have done and which the schools should be able to do better than the colleges. The result has been that in most colleges there is some remedial requirement in English composition. At Harvard English A has been required of nearly all freshmen. It has already been observed that this course, the one which is taken by the largest number of Harvard students, does not count toward fulfilling the distribution requirements. This is evidently an indication of the faculty belief that English A has to do largely with the technique of writing and is not primarily a course in subject matter, that it is calculated to develop a skill rather than to explore a field of learning.

The present requirement in English composition has the merit of placing responsibility for improvement in the writing of English in a single agency. It has the corresponding weakness of segregating training in writing from the fields of learning. Since the responsibility for training in written communication is vested in the staff of English A, the other members of the faculty too often feel that they have little if any responsibility for the development of skill and facility in writing. This seems to us a serious weakness. What is desired is not primarily skill in writing literary English or about English literature. Training in composition should not be associated with the English Department only. It should be functional to the curriculum, a significant part of the student's college experience. It should, so far as is feasible, be associated with training in general education rather than with a single course or department. We realize that if training in composition is everyone's responsibility, it may become no one's, but we believe that the ends sought by the present English A requirement can be better achieved by the modification of the existing system.

We propose that in place of English A as now given there be

substituted a procedure which will be more directly connected with the introductory courses in general education. It is assumed that all students will take at least one of the introductory courses in general education in their first year and that most freshmen will take two of these courses. We propose that during the first half of the freshman year the work in composition be limited to two class hours a week or one class and one conference hour, the emphasis to be placed upon the essential techniques and skills in writing. This would be required of all students who could not pass a test comparable in difficulty to that existing during the past few years. The bulk of the freshman class would, in other words, be required to do what might be called remedial work in English composition during the first semester of their freshman year. Even among those students who are required to take this training there will probably be such great disparities in previous education, as well as in capacity, that it will be essential to separate them into sections by accomplishment and ability.

During the second term of the freshman year the work in English composition would be required of all students. It would be given, not separately, but in connection with the courses in general education then being taken by the student. The classes in composition would, as classes, cease to meet. In their place the students would be expected to write frequent themes in connection with their general education course or courses. During the first experimental years the writing would probably be directed and corrected by the instructors in composition, but it is hoped that later all instructors in these courses might share in the task. Instructors in composition thus would come to have an intimate relation to the courses in general education. So far as proves feasible they should become members of their staffs. They would be expected to hold conferences with each student on each theme. Such individual conferences should more than compensate in educational value for the absence of formal classes in English composition during the second term.

It seems to us that there should be no additional course credit for this work in English composition, but that it should be thought of as an integral part of the general education require-

ment, one of the stages in the process of improving the capacity to communicate thought, as well as further training in systematic analysis, in evaluation, and in the discernment of relevance.

5

Administration

WE recommend the establishment of a standing Committee on General Education. This standing committee would have very much the same responsibility for general education that the departments, which are also committees of the faculty, have for special education. It would, in other words, have a general supervisory authority in this area, an authority which would include the administration, although not the making, of the rules applying to general education. It is for the faculty, with the approval of the Governing Boards, to vote the rules; the committee would supervise their enforcement. The committee would also be charged with responsibility for proposing to the faculty changes in these rules as experience indicates.

As the various departments and divisions are responsible for certifying that the student has fulfilled the requirements for concentration, so the Committee on General Education would be responsible for accrediting students' programs as fulfilling the requirements of general education. This function would ordinarily present few major administrative problems, but because we believe it desirable to maintain elements of flexibility in the program for general education we think that there is need for some discretionary authority, and that, therefore, the general education requirements should not be administered in a purely mechanical manner, or by any agency with less standing and responsibility than a committee of the faculty. The standing committee, again following the example of the departments, would have the function of administering the budget allotted to general education and of fostering the establishment of courses serving the aims of general education.

We do not conceive of appointments in general education as being either exclusively or permanently tied to such courses. We think that it will be far wiser in any long-run view to avoid having two faculties, one for general and one for special education. Those teaching the general courses should continue to have departmental affiliations and, where possible, should offer both general and special instruction. Such a system should work to the advantage both of the courses which seek to deal with the broad aims of human activity – with general ideas and with the interconnections of fields of learning – and of those which aim to promote the detailed study of particular segments of learning. The connections between teaching in the general and the special courses should be real and continuing. Members of the faculty who take part in one of the large introductory courses designed for general education should ordinarily serve in that capacity for a term of years and should retain some departmental instruction, either on the undergraduate or the graduate level, while doing so.

The committee would be responsible for preparing a list of courses fulfilling the requirements of general education, even as the department or division lists those courses which satisfy its requirements. It would probably be desirable for the Committee on General Education to issue a pamphlet stating the rules governing general education, the principles upon which they are based, and also the content, the scope, the methods, and the aims of the various courses which fulfill those requirements.

It is possible that the program which we have proposed, if adopted, should not be put into effect instantaneously. Some of the courses in general education might well be given for one or two years to small groups of students, so that experience may be gained in suitable methods and materials, before they are offered as required courses, or even as courses open to all who might elect them. This period of experimentation would also give time in which to assemble a teaching staff for each of the large courses and to hold preliminary discussions among that staff.

During such a transitional period the present rules for distribution presumably would remain in effect. It will be a simple matter for the Committee on General Education to assign each new

course to one of the areas and, if necessary, to one of the sections, into which the course offering is now divided. The new courses would thus count as fulfilling the distribution requirements so long as these remain. The committee should have responsibility for recommending to the faculty the time at which the change-over from the present distribution rules to the new rules applying to general education should take place.

The members of the Committee on General Education should be appointed by the President, perhaps for terms so arranged that there would be continuity of membership. This might be accomplished by having three-year terms with one third of the committee retiring each year. There is no particular size which seems inevitably correct, but it is probable that a committee of approximately nine members would be suitable. One of this size could include a variety of areas within the Faculty of Arts and Sciences, and yet it would not be too large to make difficult the arrangement of meetings or the efficient conduct of business. Because of the central position of this committee in the entire scheme of Harvard education, it seems probable that the Dean of the Faculty should serve *ex officio* as chairman of the committee. It is assumed that the committee would include in its membership several members of the faculty who are responsible for the conduct of the courses in general education, but it also seems desirable that its membership should not be confined to them. It should, in other words, include members of the faculty not personally involved in such courses, although there is probably no necessity for specifying in advance the proportion to be followed in the distribution of membership. This is one of the numerous questions which may be determined subsequently on the basis of experience.

6

Proposed Courses in General Education

BEFORE entering upon a discussion of specific course recommendations, we should like to refer to the principles which we already have expressed. Our proposals for courses in general education in Harvard College are based upon the philosophy of general education set forth in Chapter II. It is unnecessary to repeat here the argument there developed, but we think it appropriate to insert this reference in order that readers who are concerned primarily with the problems of college education may be reminded that the college is an inseparable part of the entire educational process.

In Chapter II we discussed the separation of learning into three areas: the humanities, the social sciences, mathematics and science. The justification for that classification we shall not repeat. Nor shall we repeat here the principles which were stated in connection with our discussion of the secondary schools. We see general education in the colleges as a continuation of general education in the schools. The differences which appear in the later stages are those required by growth in maturity, in learning, and in the mastery of certain skills. Most of what we had to say in Chapter IV concerning the reasons for studying literature, the arts, the social sciences, mathematics and science, as well as the objectives of such study, applies as well to the study of those subjects in Harvard College. As we said in Chapter IV, we do not imply that the same subject matter should be studied again in college, still less that the same books should be used or the same standards maintained. We mean, rather, that general education in the college should be viewed as the continuation of a process which started in the schools. We assume that it will be carried forward on a much more advanced level, but we also assume that the educational values and the aims in the several stages of the process remain the same.

(a) *The Humanities*

It is proposed that the course in the area of the humanities which will be required of all students be one which might be called "Great Texts of Literature." The aim of such a course would be the fullest understanding of the work read rather than of men or periods represented, craftsmanship evinced, historic or literary development shown, or anything else. These other matters would be admitted only in so far as they are necessary to allow the work to speak for itself. Otherwise they should be left for special, not general, education.

Literature is surrounded by a numerous company of attendant studies which profess to guide the student in the right approach, the proper understanding, the full enjoyment. These attendant studies occasionally assume the main place. Thus at various times philology, history of language, history of literature, biography of authors, discussion of literary form, criticism, prosody, and grammar may be found occupying the student's time and energy even to the utter neglect of that for which alone these worthy subjects were born.

As scholarship, which once had only a shelf of Greek and Latin authors to tend, becomes ever more extensive, more coordinated, and more official, this danger of forgetting its prime purpose inevitably increases. The ancillary studies can and do at innumerable points assist the specialist in his professional effort to throw light upon literature. They belong unquestionably to his own full professional equipment. It is his business to further them and to train successors in their use. Moreover, progress in these studies is tangible, almost measurable. Progress in ability to take from literature what man most needs is, in comparison, intangible. Relatively it is unexaminable. What can be examined is largely knowledge about literature. But the knowledge it has to give as a part of general, as opposed to special, education is of another sort. It is knowledge through. It comes only through immersion in the literature. Knowledge about, though its origin and aim may be simply to aid the immersion, can in fact prevent and hinder its own purpose.

The scholar is of course aware of this. He has learned this lesson in his own progress through many a hard struggle to recover perspective. But if his chief occupation has been research and the training of others in research, a special effort of imagination is needed to distinguish what is, or might be, helpful to himself in reading a master from what will help a beginner who neither possesses nor will ever possess anything resembling his own background or equipment. Here is the difficulty in designing a course in great literature for all students: that the modes of treatment proper to the specialist are a distraction to those who are not to become experts. A mere listing of books to be read would convey little without some specification of the mode of treatment. But a specification would amount to the course itself. And here we meet another difficulty. There is not one best way of introducing people to Homer or Plato or Dante. Or, if there is, which it is is not known. Freedom for the instructor is essential. He only teaches, in this field, by letting his students watch the play of a mind with a mind, that their minds may play in turn. The play he shows them must be representative of "the all in each of all minds," to use Coleridge's phrase, but it cannot be tied down to another man's notions of what is educative. And yet if a course in literature is to deserve to be compulsory there must be wide agreement both as to what it is attempting and how it will attempt that.

A third difficulty is that there are no known ways of describing ends or means in these matters which will not be construed by different readers to very different effects. Nonetheless, with the prime aims as defined above in mind, it may be said that the more specific aim is familiarity with as much of the greatest writing as can be read and pondered in the limited time available. The proportion of reading to pondering is of course the turning point. There must be time for reflection or the familiarity will remain too verbal. This cuts down the amount that can be read. But since the best commentary on an author is frequently some more of his writing, and since great books are great in part through the power of their design, the amount for single authors cannot be cut beyond a point. The outcome is that fewer books can be

chosen. Each must be read completely enough for its parts to help one another to the full. Probably, therefore, a course which chose eight great books would be trying to do too much. A list from which a selection would be made might include Homer, one or two of the Greek tragedies, Plato, the Bible, Virgil, Dante, Shakespeare, Milton, Tolstoy.

Both lectures and group discussions are desirable as aids to this reading. The main purpose of the lectures would be to launch certain themes for the discussions. Each of these books can be thought about and talked over through course after course. Careful husbandry of time will be needed. It will not be possible to consider more than some selection of those things in each book for which it has been most regarded; and this selection will need all the instructor's wisdom. It will include the greatest, most universal, most essential human preoccupations first. Whatever is left unnoticed is sacrificed in the interests of these. The treatment which is attempted of these great themes can only do its best to be worthy of them. They themselves are its inspiration. Beyond all techniques of pedagogy and scholarship these books have been masters of method. The instructor can only seek to be a means by which the authors teach the course.

Some doubt may be felt whether the heights of these books may not be beyond the reach of large masses of the students. But they have always been admittedly beyond the reach of the vast majority of even their best readers. That has not made them less educative. And indeed the chief reason for the course, and the best argument for experimenting with it, is that too many students today have too little contact with thoughts which are beyond them (apart from the specialties) and that many are in fact passionately if inarticulately hungry for greatness in the common cares of man.

Other General Courses in the Humanities. Under the rules that we have proposed for the distribution of choice among general education courses all students might take one additional course in the humanities area, and those students not concentrating in a department falling within that area might be allowed to take two or even three such courses. We do not propose to draw

up an inclusive list of courses suitable for fulfilling the general education requirements, but we think it desirable to say something about the principles which should be observed in planning courses designed for that purpose.

It seems to us entirely undesirable to have a course of the block-survey type which would include portions of all, or nearly all, of the humanities. What principle of synthesis would bring together in one, or even in two courses, the subject matter of philosophy, the fine arts, music, and literature (for the course on great texts would not exhaust the possible contributions of literature to general education)? Such a broad survey of the superficial aspects of fields which have relatively little in common may be productive of a smattering of information, but it is not conducive to the growth of understanding or to the development of those intellectual qualities which we believe to be the chief goal of a general education.

Nor is it sufficient to require that the student take some course, any course, in the humanities. Such a requirement apparently rests upon the assumption that any course in English or in a foreign literature, in philosophy, or in the fine arts, or music, simply because it is offered in one of those departments, will contribute to a liberal education. A course is not necessarily liberal or humanistic, and certainly not general, simply because it is offered by a department of literature, or philosophy, or art, or music. Such courses may be as specialistic as courses in the other two areas.

Literature. The place of literature in general education was discussed at some length in the preceding chapter and again in the section dealing with the projected course on great texts. As we have just said, we assume that that course would not be the only one available for students who wish to satisfy their general education requirement by taking an additional course or courses in literature. It is evident that there are now offered at Harvard several different kinds of courses on literature, some designed for the specialist, some for general education. Just how many in the latter category should be made available, with some reshaping, for the satisfaction of the general education requirements is a

problem that should be determined by the Committee on General Education, and that decision should be subject to modification after further time for study and after the accumulation of additional experience. Changes in personnel in the various departments of literature will, of course, bring changes in the offerings of those departments, and such changes will occasionally affect the nature and number of the general education courses.

In addition to literature courses offered by single departments, we believe it highly desirable to have courses on literature which fall within no single department, courses which in some fashion cross over the national boundaries which departments of literature ordinarily reflect and offer opportunities for the study of types and styles of literature on a broadly comparative and philosophic basis.

Philosophy. The place of philosophy in general education has been the subject of prolonged debate during the last few years, with no clear agreement emerging. One of the obstacles in the way of an agreement is uncertainty about the role of philosophy. It is sometimes said that philosophy offers a universal synthesis of all knowledge. That was approximately true two centuries ago, but since that time the natural sciences and large portions of what have become the social sciences have separated from the parent stem and have become enormously complex and specialized disciplines of their own. Another difficulty usually encountered in any discussion about the position of philosophy is the extreme claim sometimes made that only in and through philosophy can one attain a truly rational approach to the major problems of life. The fact would seem to be that this is true for some persons but is wide of the mark for those to whom the methods of philosophy appear abstract and unreal.

Yet when these caveats have been entered, it remains true that a very considerable proportion of college students can find in philosophy, if it be taught in a manner suited to their background and their needs, one of the most vital of intellectual experiences. We think that it would be serving no good purpose to require every student to take a course in philosophy. Such a rule would result in a watered-down course suitable neither for the philo-

sophically dull nor for the philosophically curious and adept. But if we believe that philosophy is a subject which cannot be required of all students, we also believe that there should be available at least two philosophy courses among the list of those suitable for fulfilling the requirements in general education. We do not mean to imply that two is a maximum number. We suggest only that it would be desirable to have one course which would be planned for those students who wish to take a general education course in philosophy during their freshman or sophomore year, and another for students who prefer to take this subject in their senior, or possibly junior, year. We have observed many students who postponed taking a course in philosophy until they had attained a relative maturity of learning and of outlook, and then discovered that philosophy was superbly rewarding. But there are students for whom the same experience can come during the freshman or sophomore year, and we see no way of laying down a universal rule concerning the time at which students should take such a course. We do believe it important to recognize that there are many students who will profit from work in philosophy provided their study of that subject comes relatively late, and that a course designed for students who have attained some mastery of another field of learning but who are beginners in philosophy should be made available, and that its membership be limited to them.

It would be unwise for us to prescribe the organization or the content of either of these courses in philosophy. We can be more definite about their aims. They should aim to impart to the student the habit of self-criticism on the one hand – the scrutiny of fundamental presuppositions – and on the other they should impart perspective, the capacity to envisage truth synoptically, from the standpoint of "all time and all existence." Essentially they would be concerned with the questions raised by the great philosophers, questions which haunt any reflective mind, young or old. There are various ways of organizing the materials in a course in philosophy so that they will be suitable for the purposes of general education, and it is probable that courses offered by different instructors would follow varying methods of approach.

The analysis of the principal writings of six or seven of the great philosophers, the method long used with success in Philosophy A, would offer interesting parallels to the course on great texts, and the introductory course in the social sciences, which will be discussed in the following section of this chapter. This approach is not, we believe, the only way of studying the philosophical ideas discussed by the greatest philosophers. Another approach is by the study of problems such as causality, change, free will, and truth. The third approach is the study of types of philosophy, such as idealism, pragmatism, naturalism, and realism. In effect, these three approaches – the study of great masters in philosophy, of problems, and of systems – are inseparable, since the use of any one method would involve the other two. We would propose still another way, altogether different from these just mentioned, for future consideration in connection with the development of philosophical courses in general education. This method has already been tried at Harvard with an increasing measure of success among beginning students. Such a course would have as its objective the study of the heritage of philosophy in our civilization. Western culture may be compared to a lake fed by the streams of Hellenism, Christianity, science, and democracy. A philosophical course based upon the study of these contributions might offer an extremely valuable way of considering the conceptions of a life of reason, the principle of an ordered and intelligible world, the ideas of faith, of a personal God, of the absolute value of the human individual, the method of observation and experiment, and the conception of empirical laws, as well as the doctrines of equality and of the brotherhood of man.

The Fine Arts. The claim for the fine arts in general education rests on several assumptions: first, that the function of education is to develop our faculties of perception and understanding; second, that works experienced visually (architecture, sculpture, and painting) are a significant part of human culture and that the study of them is an academic discipline analogous in its methods and values to the study of literature or of philosophy.

Fundamental to all learning in the field is the perception and

understanding of the means of expression in the visual arts. The forms of the arts are so varied, the body of material so vast, that no one can hope to comprehend all expressive means. Yet once a beginning has been made and a real grasp of the meaning of the forms of even a very small part of the total of art is achieved, the way to further understanding lies open. A student can go on by himself, once he has learned how to "see." Since early schooling is ordinarily so strongly literary, the majority of students come to college with at least some grasp of literature and, through popular music, the radio and records, some notion of music. Few, however, have ever been exposed to the visual arts. It seems to us, therefore, that it should be the obligation of the college to correct this lack, by acquainting as many students as possible with the visual arts through a systematic introduction in the classroom. Otherwise, a whole field of experience that is a significant part of human culture may remain closed.

This committee does not feel competent to determine either the character or the content of general education courses in the fine arts. It is probable that both historical and analytical approaches to the subject should be made available. The two methods might possibly be combined in a single course, but such a combination can be successful only if the instructor in charge believes in that approach. It is interesting that perhaps the best remembered general course in the fine arts ever given at Harvard was that of Charles Eliot Norton, who followed none of the present methods of bringing the student into direct contact with works of art.

It has been proposed to us that an approach to the fine arts which would be nearer to the methods of architecture should also be made available, and a course on the elements of design might well prove to be a valuable experience for a large number of students. Such a course would deal with the fundamentals of surface, volume, and space, and would probably involve some elementary shopwork aimed to coördinate the elements of handwork and design.

Although we do not believe that training in the technique of the arts should be a part of general education, the development

of creative ability for the pleasure and satisfaction that creative work, even on a nonprofessional basis, can bring must be recognized. Opportunity should be given to the student to explore the possibilities for himself in drawing, painting, and modeling. Facilities and professional supervision should be provided on an extracurricular basis. Just as the student with musical talent can play in the orchestra or sing in the glee club with the best professional direction, so a student should be able to do water colors or model with the aid of really competent guidance. A studio open to all students with a professional painter or sculptor in charge is a desirable aim.

Music. A training in the musical skills is hardly within the province of general education, but participation in choral singing or in orchestral performance can be of the greatest value for large numbers of students. The Harvard Glee Club has given a magnificent opportunity to hundreds of students to engage in one of the most rewarding of aesthetic experiences, one which, as we observed in the preceding chapter, contributes also to the development of social unity. The Harvard Orchestra has offered a similar experience for a somewhat more limited number who had already attained a sufficient degree of skill in the handling of musical instruments.

A recognition of the importance of experience in musical expression does not mean that we consider courses in the history or in the analysis of music to be irrelevant to general education. Such courses have in the past contributed largely to the durable satisfaction of many students, some of whom secure but meager profit from those subjects which must depend on verbal symbols. We believe that one or more courses in music should be designed and given for the purposes of general education, but we are not qualified to suggest which types of courses would be most suitable for these purposes.

(b) *The Social Sciences*

It is proposed that all students take a course which might be called "Western Thought and Institutions." We considered the possibility of suggesting as a title for such a course "The

Evolution of Free Society," but that title carries with it implications of indoctrination which would be unacceptable to many, and which might, indeed, convey an entirely false idea of its intentions. For while we agree that Harvard College should assume "a full and a conscientious responsibility for training men in the nature of the heritage which they possess, and in the responsibilities which they must assume as free men for its enlargement and perpetuation," we do not believe that the course should be one which would attempt to convince students of the eternal perfection of existing ideas and institutions. The central objective of the course would be an examination of the institutional and theoretical aspects of the Western heritage.

It would be inappropriate for us to outline in detail a scheme of this course, or even to indicate all the topics with which it would be concerned. Its content and procedure should be worked out by the staff charged with its execution and later modified on the basis of experience in actually giving the course. In order to indicate somewhat more clearly the character of the course we have in mind we shall, however, suggest a number of topics and writings with which it could deal appropriately.

Any course which attempts to consider the nature of the Western heritage must raise more questions than it professes to answer. It should open up questions of ends as well as of means, of values and objectives as well as of institutional organization. But it should also include an analysis of some of the great attempts which have been made to find answers to these questions. The course would, in other words, include an historical analysis of certain significant movements and changes in Western society together with the reading of substantial portions of certain of the classics of political, economic, and social thought which those changes have helped to produce.

In a single course it would be folly to attempt a comprehensive survey of the entire range of European institutional development and social thinking from the time of the Greeks to the present day, and no such project is proposed. We believe that the course should be selective, not inclusive. It will, for example, probably be thought desirable to spend some time at the beginning in read-

ing portions of two or three of the great foundation treatises of political and social thought which came out of the civilization of classic antiquity. It may be doubted whether any other books succeed so well in raising certain of the persistent problems of organized life in society as do those of Plato and Aristotle. The study could not at this point be a thorough one in the sense in which advanced work in a field of concentration would be thorough, but it might prove to be intensely valuable in indicating the nature of some of the more enduring problems. Along with the reading of portions of such books might well go lectures on the character of the Greek city-state, and possibly some consideration of the impact of the Roman Empire upon the culture, law, and political life of the ancient world.

The proportion of time to be allotted to this primary material should be left for later decision. But it seems apparent that the principal emphasis in the course should be placed upon the evolution of such institutions as representative government and the reign of law, the impact of the Reformation upon society and government, as well as upon religion and philosophy, the growth of religious toleration, the nature and legacy of the natural-rights philosophy, the growing confidence in the power of reason to deal with human problems, the expansion of humanitarianism, the rise of the laissez-faire philosophy and its relation to the economy of the preindustrial age, and the impact of the technological revolution upon industrial organization, the growth of populations, and the vast expansion of social and economic legislation.

Let us repeat that we do not anticipate the comprehensive coverage of all of these topics or of others which might be substituted for some of them, or even added to them. A general survey is apt to be a dreary and a sterile affair, leaving little residue in the minds of the students. But we also wish to reiterate the principle that narrowly specialized courses which may be far more thorough do not provide the answer to the evident need for some approach in the field of the social sciences to the problems of a general education. The course on Western thought and institutions would not cover or even, we should assume,

attempt to deal with all of the major topics. There would be a constant need for selection and hence for emphasis. The attempt is not to survey all history and all political and social thought but to open up some of the great questions, to indicate the character of some attempted solutions of the past, to study a few of those topics and of the great statements of analysis or of ideals with some intensity. Not the least among the possible achievements of such a course might be the desire of students who had taken it to push deeper into some aspects of the field which had been opened to them.

It is evident that there is an immense body of philosophical literature available for use in a course of this kind. The problem of selection will not be an easy one, and we do not wish to make that choice. We may suggest, however, that in the writings of Aquinas, Machiavelli, Luther, Bodin, Locke, Montesquieu, Rousseau, Adam Smith, Bentham, and Mill, to mention no others, one can find materials admirably suited to serve the purpose of such a course. These writings will be best understood and most valuable to the student when read in the economic, social, and political context of their times. They should, that is to say, be studied not simply as great books, but as great expressions of ideas which emanated from certain historical backgrounds. Only when their reading and interpretation are based upon a study of the times in which they were produced can the student come to have a genuine understanding both of their significance when first published and of their relevance to the problems of the twentieth century.

It may be said that the course which we have suggested is beyond the capacity of the freshman or sophomore student. We agree that few of the materials proposed for the course are of the simplified textbook character. But we also believe that the course offers the best possible introduction to the general range of subject matter dealt with in the various fields of the social sciences, and that it will offer the student, even though he may fail to grasp the significance of much of the material at the time, a set of intellectual tools which will be of the greatest value to him. Although a course of the kind which we envisage has not

previously been offered at Harvard, it would draw heavily upon materials and methods used in two of the largest introductory courses, History 1 and Government 1. The course is not unlike the very successful introductory course, "Contemporary Civilization," which has been given at Columbia during the past twenty-six years, although we suggest that it would be preferable to deal with fewer topics and to read longer portions of fewer books than has been customary in that admirable course. In a formal sense "Western Thought and Institutions" would be a new course, but it would thus be building upon the experience derived from courses which have been successfully taken by freshmen at both Harvard and Columbia.

The course would have the additional merit of avoiding repetition of high-school work in the social studies. Students coming to it with a good high-school training in European history would find their earlier work of great value to them, but they would not be asked to rewalk the same paths. This discouraging resurvey of European history or of problems of American life has been a not infrequent aspect both of the older variety of freshman survey courses in history and of some of the more recent interdepartmental survey courses in the social sciences.

It is evident that although this proposed course would not parallel with any exactitude the proposed course on great texts which we suggest for the area of the humanities, there would be rewarding opportunities for cross reference and for comparison in the two courses. These two courses, as well as the projected introductory course in the physical sciences, would form a comparatively coherent and unified background for an understanding of some of the principal elements in the heritage of Western civilization.

Other Courses in the Social Sciences. There will in time be a number of courses in the area of the social sciences, in addition to the required course on Western thought and institutions, which can be used for satisfying the requirement in general education. It may be assumed that several existing courses, doubtless altered somewhat to meet the needs of nonconcentrators, will be found acceptable for this purpose.

What was said earlier in this chapter about general education courses in the humanities is pertinent to the consideration of courses in the social sciences. We believe that a course will not necessarily be suitable for the purposes of general education simply because it is offered by the Department of History, or Economics, or Government, or Sociology, or Anthropology, or Psychology. Nor will the fact that it is an introductory course make it useful for students who intend to take no further work in that subject. Yet there are courses in all of these subjects which achieve many of the aims of general education. How many of them can be made available for students who have had no preliminary work in the field must be determined in each instance.

Block-survey courses including largely unrelated segments of three or four of the social sciences seem to us as undesirable as synthetic groupings in the humanities. We think that there are many possibilities for courses in the social sciences which are genuinely interdepartmental, but there must be some carefully thought-out principle of coherence involved or the course will likely fail to attain any unity. There is, after all, no very real educational advantage in having a course taught by several persons, simply because they have their professional homes in different departments, and there are obvious weaknesses involved in such coöperation unless the central aim is both clear and attainable. Otherwise, the course is apt to combine superficiality with an almost complete lack of integration – except in the title.

American Democracy. We may suggest a single example of a course which would draw on materials in all, or nearly all, of the social sciences, and yet would not consist of a series of unrelated segments. It seems to us that both as a sequel to the course on Western thought and institutions, and as a preparation for the responsibilities of citizenship, one of the most suitable courses which could be devised for the purposes of general education would be one to which the title "American Democracy" might be given. Such a course would have as its immediate aim a mature consideration of certain of the problems which confront an American citizen. It would be in no sense a study of current

events or even of current situations, even though it is to be hoped that it would be intimately related to the problems of the present day. Nor would it consist of a series of blocks of lectures, each block given by a man from a different department. The proposed course would be interdepartmental in the sense that it would draw upon materials and techniques employed in various social sciences, but it should not be given by a panel of lecturers each having a vested right to a certain number of weeks. The staff of this course, like that of the proposed course on Western thought and institutions, would almost certainly be drawn from men in all, or nearly all, of the social-science fields, but it is assumed that a single member of the faculty would be placed in charge.

A course on American democracy would involve the study of a carefully selected group of topics which could be considered in terms of their historical development, of their relation to the institutional and philosophic pattern of which they form a part, and which would be viewed in terms of the values they reflect, as well as analyzed from the aspect of the detached critic.

The best examples of the approach that we have in mind are to be found in three volumes written by foreign students of American society. Tocqueville's *Democracy in America* and Bryce's *American Commonwealth* have long been among the most valuable books for anyone concerned either with the past or with the present nature of American democracy. Gunnar Myrdal's *An American Dilemma* deals with a much more limited subject matter, but he approaches it with such breadth that his method indicates the possibilities for a study of current problems which draws upon relevant materials in all of the social sciences and which also transcends the contemporaneous.

A course of this kind cannot be created overnight. The assignment will be an extremely difficult one. What was said earlier about the need for time and for experimentation with small groups will be particularly true here. But we also feel that an investment in such a course might pay remarkable dividends. The course would probably be intended primarily for those who are not concentrators in one of the social sciences. It might,

however, prove invaluable for those concentrators, as well as for students who take no subsequent college work in the social sciences.

Just as the course on Western thought and institutions would be more valuable to those students who have had some sound work in European history in high school, so those students who attained a reasonable mastery of American history before entering college would find their knowledge of that subject of particular importance for a course on American democracy.

Human Relations. We think it unnecessary to suggest many new courses in the social sciences at this time, since we believe that there will be many proposals made by social-science departments or by individual members of the faculty for courses which the Committee on General Education will need to consider. We do, however, wish to recommend that a course in the field of "human relations" be carefully considered by the standing committee and, if it appear feasible, be offered as one of those in general education. The need for such a course has been expressed by students and alumni. In many of the answers to the questionnaire sent out to a large body of Radcliffe alumnae last summer the view is expressed that the greatest lack in the general training offered in college is precisely at this point. The difficulty of the task is almost as great as the importance of the problem. There is relatively little material suitable for undergraduate instruction now available. It is certain that a course of this kind, if it is given at all, should be given on an experimental basis over a number of years and to a class of limited numbers. But the potential value of such an experiment seems so great that it would be shortsighted to rest content with a recognition of the difficulties involved and to make them the basis for a policy of inaction.

(c) *Science and Mathematics*

General Considerations. From the viewpoint of general education the principal criticism to be leveled at much of present college instruction in science is that it consists of courses in special fields, directed toward training the future specialist and making few concessions to the general student. Most of the time in

such courses is devoted to developing a technical vocabulary and technical skills and to a systematic presentation of the accumulated fact and theory which the science has inherited from the past. Comparatively little serious attention is given to the examination of basic concepts, the nature of the scientific enterprise, the historical development of the subject, its great literature, or its interrelationships with other areas of interest and activity. What such courses frequently supply are only the bricks of the scientific structure. The student who goes on into more advanced work can build something from them. The general student is more likely to be left simply with bricks. Eventually he constructs his educational edifice elsewhere with other materials.

It frequently happens that even the student who concentrates in a science is preoccupied with his specialty to such a degree that he fails to achieve a view of science as a whole and of the interrelationships of the special fields within it. A general education in science needs to be provided for the future scientist or technologist as well as for the general student. One could scarcely insist that all students of history or literature should learn some biology, for example, but that the prospective physicist or chemist need not do so.

It is necessary, therefore, to provide science courses at the introductory level which have general rather than specialistic education as their primary aim. Such courses should represent reasonably broad syntheses within the areas of science and mathematics — the physical sciences, for example; or a fusion of physics with mathematics or chemistry; or biology, animal and plant. They should be taught so as to convey some integrative viewpoint, scientific method, or the development of scientific concepts, or the scientific world-view. They should convey verbally and through the laboratory some understanding of the various means by which science progresses: increase in the precision of observation and measurement, the evolution of fundamental concepts, the introduction of new instruments and procedures, the fructification of one science by another, the progression from description to analysis and synthesis and from the qualitative to the quantitative.

The creation of introductory courses in science, however, does not exhaust the contribution which science should make to general education or our concern with the general education of the scientist. The body of science includes not only special knowledge and skills but conceptual interrelations, a world-view, and a view of the nature of man and knowledge, which together constitute the philosophy of science; a history which forms a continuous and important segment of all human history; and writings which include some of the most significant and impressive contributions to all literature.

These aspects of the sciences are frequently almost entirely neglected in the college teaching of science. It sometimes happens that members of philosophy departments devote some attention to the philosophy of science. Unfortunately, the professional philosopher may possess only a remote appreciation of the nature of science. In any case his contribution usually does not reach either science students or members of the science staff. It is philosophy of science for students of philosophy. Similarly, the history of science may be dealt with in separate courses or even as at Harvard in a separate department of the college. Such devices, valuable as they may be intrinsically, merely emphasize the avoidance of instruction in the history and philosophy of science by scientists themselves.

The claim of general education is that the history of science is part of science. So are its philosophy, its great literature, and its social and intellectual context. The contribution of science instruction to the life of the university and to society should include these elements, since science includes them. A science course so constructed as to encompass these elements makes an important contribution to general education. It need not by that token make a poorer contribution to an education in science. One can defend the view that it is all the better science for being good general education.

Beyond the introductory courses which are described below, general education in science and mathematics needs to be provided for the advanced student. Ideally this should be an integral part of the education in his specialty, pervading all his courses.

In part it might also take the form of special courses in the science departments, probably seminars, which examine on a mature level, and with reasonably well-prepared students, important aspects of the philosophy, history, and interrelations of the sciences. The great books of science can make an important contribution in this process. They offer the well-trained student extraordinarily rich material for consideration and discussion and can help him to attain a breadth of view and intellectual grasp of his field scarcely to be equaled by other means.

An Introductory Program. What we propose to do concerning general education in science and mathematics at Harvard must be designed to meet the needs of students who vary widely in aptitude and training. All that we can depend upon in the entering student in these fields is some instruction in elementary algebra and geometry. At the other extreme we admit students who have had as much as four years each of mathematics and science. Though this entire gamut of possibilities is represented in the entering classes, the great bulk of students come to Harvard with an appreciable foundation in school mathematics and science. All but a handful (twenty-three out of nine hundred in a recent count) have had at least three years of school mathematics, including algebra, demonstrative geometry, and usually a second year of algebra. Almost 40 per cent have gone at least two courses beyond second-year algebra. About 95 per cent of the students have studied biology, chemistry, or physics for at least one year at school; and about 50 per cent have taken more than one year of work in these sciences.

Mathematics. A specific level of proficiency in mathematics is not at present required for admission to Harvard College, nor do we propose that it should be. The minimal program of secondary-school mathematics alluded to in the foregoing chapter, however, which includes elementary algebra and demonstrative geometry, is essential for pursuing the program in natural sciences which we envisage for the general student, and for understanding many matters which arise in concentration programs outside the sciences.

As indicated above, almost all students who now come to

Harvard have had at least one year of school mathematics beyond this minimal program. The very small number who offer only two years of school mathematics are likely to have been selected for admission because of particular gifts which outweigh their paucity of mathematical training. From the point of view of general education, therefore, one might be permitted the optimistic view that our students have already completed a minimal program in mathematics before entering college.

It must be conceded that with some students this instruction has not "taken"; at the time of entering college they are not proficient in the mathematics studied at school. This is a problem which must be faced by those departments of the college which give instruction in fields which require mathematical understanding and competence. We take the position, however, that for the general student – the student whose work in college makes no specific mathematical demands – there is little point, whatever his level of performance, in prescribing remedial mathematics. It would necessarily involve much simple repetition of work already done in secondary school and would offer little hope that such a second exposure would result in substantial educational gain.

Science. To provide for introductory general education in the sciences it is proposed that two new courses be instituted: one in the principles of physical science and one in the principles of biological science. Both courses are to be planned primarily to give students an insight into the fundamental principles of the subject and the nature of the scientific enterprise. In neither of them is a systematic factual survey contemplated. Both courses should communicate by discussion and example the methods by which scientific knowledge has advanced within the past four hundred years and should illustrate the combination of logical analysis, careful observation and experiment, and imaginative insight which has characterized the great scientific advances of the past.

In the physical sciences, scientific modes of inquiry are applied to relatively simple systems. These lend themselves to precise definition and measurement, their elements can be analyzed and

often separately controlled, and their properties can be described and to a degree predicted. The physical sciences therefore provide the clearest, simplest, and most rigorous examples of scientific analysis and approach.

The biological sciences are concerned with a much more complex level of material organization, one which therefore is less open to precise definition, specification, and control. A course in biological sciences should convey to students some insight into the way in which science approaches such complicated and multivariant systems, and some understanding, therefore, of the nature of problems which are encountered in even more extreme form in the social studies.

Both courses should include lectures, laboratory work by individual students, and conferences. Though each of the courses could profit intellectually from the advice of scientists and other interested scholars, and each might be enlivened with occasional guest lectures, each of them should represent primarily a synthesis in the mind of a single person who is entrusted with the design and direction of the course as a whole.

The way in which topics are presented is itself of great importance. Too often, even in introductory courses, problems appear simply in the form of educational bric-a-brac, hurdles in performance for the student. In such courses as we have in mind every effort should be made to have the student understand and assent to the problems which confront him as genuine scientific problems. To a degree this result can be achieved by thorough presentation and discussion, clarified by demonstrations and work in the laboratory. One prime difficulty, however, is that much of the material to be considered does not in fact present problems to the contemporary scientist; even the well-informed student already knows the solutions. Such situations can frequently borrow a very stimulating interest and heightened value by being presented in their proper historical context. Many topics which might now represent only scientific detritus, dull and dry facts and formulas to be memorized by the student, were matters of absorbing concern and controversy in the past. Their educational value and intellectual quality are bound up inti-

mately with this past status. The historical development of the subjects considered in our courses, therefore, should occupy an important place in their design.

The kind of presentation which is contemplated will necessarily force the omission of much of the conventional subject matter of biology and the physical sciences. Nevertheless, the student who grasps the content of this type of course should emerge with a rich understanding of the nature of science and of many basic phenomena. Such a course might be expected to fill a much more substantial place in the total residue of his formal education than would more detailed and systematic courses in the individual fields of physical or biological science. It is proposed that all students at Harvard College take either the course in physical sciences or that in biological sciences.

A Course in the Principles of Physical Science. This course must be planned for freshmen and sophomores who vary widely in scientific and mathematical preparation and who can be relied upon to possess only a general interest in science. Rather than provide the student with a systematic presentation of the materials of one science, this course should develop particular aspects of the scientific enterprise within the whole range of the physical sciences. To give the course greater unity, it should be built about a core of physics. Materials from other sciences — chemistry, astronomy, and geology — should be introduced only to the degree that they are pertinent to the problems under discussion. The course would probably omit, for example, descriptive chemistry and descriptive astronomy. It should, however, explore basic chemical concepts: atomic theory, the periodic system, laws of chemical combination, valence, and so on. Similarly, celestial mechanics might provide the material for much of its discussion of dynamical principles.

Such a course must discard at the outset any attempt to survey the material of the sciences which compose it. Rather, it must look to some dominant intellectual pattern to guide its selection of material. In the present case the pattern is to be found in the development of basic physical principles and concepts, and the methods and approaches by which they have been developed.

This is not intended to be merely a course about science. It will contain much solid scientific content. The student will learn fundamental facts and laws and will solve problems theoretically and in the laboratory. He will do so, however, with a highly selected subject matter, which in every case is chosen to subserve the major aims of the course.

The emphasis on historical development in this course is in no sense to constitute merely a humanistic garnishing of its factual material. On the contrary, it is introduced to illuminate and vitalize the content with which it is integrated. The attempt should be made in this course to teach science as part of the total intellectual and historical process, of which, in fact, it has always been an important part. The student should gain thereby an insight into the principles of science, an appreciation of the values of the scientific enterprise; and he should also learn much of the subject matter of the physical sciences.

It is expected that this course will be given in two versions adapted to the wide differences in mathematical achievement of entering students. Both editions of the course should have precisely the same educational objectives and fundamental structure. They would differ only in rate and rigor of presentation.

The heart of the course in physical sciences should be its lectures. They should include much illustrative material — slides, motion pictures when available, and demonstrations. The course ideally should be directed by a single lecturer, though it might well be enlivened from time to time by other lecturers on special topics. The lectures should be supplemented by conference sections meeting once each week. These should be differentiated according to the interests, preparation, and aptitude of the students. They should afford opportunity for discussion with the instructor and for exercise in dealing with theoretical problems. The number of students in each section should be small enough to permit general participation in discussion. Beyond formal classwork, students should be expected to solve problems and write occasional themes. Outside reading should include contact with original scientific sources. In part, these will have to be

prepared specifically for this course, since no adequate collections of such material are at present available.

The laboratory associated with this course is of special importance. It should be planned to illustrate the methods by which physical problems are approached and solved. Every *effort should be made to convey these as genuine experiences*, either by presenting the student with problems of which he does not know the answer or, when this is impracticable, by casting back the situation into the historical framework in which it constituted a genuine issue. The student should thus have a series of real experiences in the scientific solution of material problems. He should also have considerable exercise in the employment of scientific data to yield general solutions, basic principles, and predictions of the behavior of systems with which he has had as yet no contact.

A Course in the Principles of Biological Science. The aim of the course in biological sciences is to present an integrated view of the science of living organisms, animal and plant. It should lay constant emphasis upon general concepts and upon modes of scientific approach to biological problems. It should convey not only knowledge concerning organisms, but how this knowledge was acquired and how it impinges upon other areas of human interest and learning.

The course is expected to develop its main themes in a program of lectures. These should draw appropriate material from the fields of zoology, botany, physiology, paleontology, and geology. About this nucleus should be built a program of demonstrations, individual work in the laboratory, and conferences. The laboratory should provide abundant opportunity for examining living organisms. The student should have access to a microscope and should see living protozoa, protoplasmic streaming in plant cells, the beating of cilia, and the capillary circulation of the blood. Only in this way can he come to appreciate the constant flux and motion that characterize all life.

For induction into scientific modes of investigation, the laboratory, in close association with the lectures, might well review a number of classic experiments in the history of biology. Those,

for example, by which Redi, Spallanzani, and Pasteur demolished the belief in spontaneous generation are well within the compass of this course. Pasteur's experiments also introduce the students to such practical matters as antisepsis and techniques of pasteurization. Simple modifications of the original procedures of Priestley and Ingenhousz demonstrate with great clarity the interrelations of photosynthesis and respiration in plants and animals, and the interplay of both processes in maintaining animals and plants in organic balance.

Group demonstrations prepared and performed by the instructing staff can exhibit to the students many phenomena which they have neither the skill nor resources to demonstrate for themselves: the electrical activities of the beating heart and of the brain, the action of hormones and drugs, the effects of vitamin deficiency, and so on. Museum exhibits and selected motion pictures can also aid greatly in clarifying and integrating the work of the course.

A large responsibility in achieving the educational aims of this course should rest upon work in conferences. Organisms are so complex in structure, and so varied in their activities and interrelations, that the mere passive reception of information about them by the student, either in lecture or by reading, is inadequate. He must be given the opportunity to talk about biology with others, to view its concepts from many different aspects, and to correct and refine his notions of them in the dialectic of question and answer, discussion and argument. The conferences also must be the principal means of directing and organizing the student's outside activities in connection with the course: his visits to museums, field trips, and his outside reading.

Apart from elementary textbooks, many lucid and stimulating presentations of special aspects of biology exist, written by authorities for the use of nonspecialists. Examples are T. H. Huxley's *Man's Place in Nature*, T. H. Morgan's *Evolution and Genetics*, A. V. Hill's *Living Machinery*, and W. B. Cannon's *Wisdom of the Body*. Such contacts with original authority represent a particularly satisfying experience for the student

and lead his interest more deeply into specific phases of biological thought.

A serious attempt should be made in the course also to bring students into contact with examples of the classic literature of biology. Such writings as Harvey's *Circulation of Blood*, portions of Darwin's *Origin of Species* and *Descent of Man*, parts of Claude Bernard's *Introduction to Experimental Medicine*, William Beaumont's *Observations on the Physiology of Digestion*, and Gregor Mendel's first paper on plant hybridization, all make fine reading for the beginning student. Fortunately some of these works – Darwin, Harvey, and Beaumont, for example – are available in cheap editions. Others are not so readily accessible. It may prove desirable in this course to prepare an anthology of source materials in biology.

7

Tutorial and Advising

THE system of individual instruction and guidance to which the term, tutorial, was applied has been in effect for a varying length of time in different departments, having been adopted in some thirty years ago, in others during the twenties. One department, Chemistry, has never adopted the system, while several of the other sciences experimented with it for a few years and then abandoned it.

It is to be remembered that the tutorial system at Harvard has never been the only method of instruction employed in any field of study. It was added to a fully developed course system that has remained intact even in those departments in which tutorial instruction has been most strongly emphasized. To be sure, a limited number of students were allowed to substitute additional work with their tutors for one or two or even three courses, but even in these cases tutorial work, on any quantitative basis, occupied a minor position. It is a significant fact that during this entire period the organization, procedure, and value of the course sys-

tem were generally taken for granted, at least to the extent that it was assumed that courses would continue to be the principal method of instruction in Harvard College.

During the past two decades there have been many investigations of the tutorial system by a variety of agencies. The system has been discussed in three reports of the Student Council (1926, 1931, 1939). It was the subject of a careful report made by the Overseers Committee to Visit Harvard College in 1934. It was also the subject of discussion in 1936 by a committee of the faculty which prepared a report recommending certain changes in the system, and it was the subject of a report published and circulated by the Teachers' Union in 1940. In 1943 the Dean of the Faculty of Arts and Sciences addressed a number of questions to the members of the Faculty of Arts and Sciences on the subject of the tutorial system, and in answer to these questions one hundred and sixty-seven letters were written by individual members of the faculty to the Dean, many of the letters dealing at considerable length with the problems of tutorial instruction, some of them containing suggestions for its modification.

We have not attempted to make another survey of this particular method of instruction, but we felt that a discussion of general education in Harvard College involved a consideration of the tutorial system, if only because of the possibility that tutorial instruction might be more closely related to general education. We have given attention to all of the discussions and proposals to which we have just referred. We have also had the advantage of reading nearly two hundred replies to a questionnaire on the tutorial system sent out during the summer of 1944 to alumnae of Radcliffe College who had received such instruction during the last twenty years. We should have liked to make such an inquiry of the alumni of Harvard College, but because so large a proportion of them were scattered over the world in the various armed services, it did not seem possible to secure a well-distributed group of replies.

It has occasionally been proposed that tutorial instruction should be related to general education rather than to concentra-

tion in a special field. We believe that such a change would not be desirable, even though we are strongly of the opinion that tutoring does in many cases make a very substantial contribution to general education. This contribution is not made through tutorial in nebulous subjects, but rather through the discussion of books and of ideas in a given field of concentration. It is true that tutorial has sometimes been little more than a process of preparing students for divisional examinations, but this has been tutorial in its least admirable form. If tutorial consisted of nothing more than what is ordinarily called "filling in the gaps," or of coaching for divisional examinations, it would deserve to be abandoned altogether. Fortunately the best tutors have done far more than help their students cover certain ranges of a subject matter in which they felt inadequately prepared. We have already referred several times to the educational deficiencies of a purely survey course. What has been said about the cruder forms of coverage practiced in some courses is even more strongly applicable to survey work through the tutorial method. A certain amount of ground coverage is necessary and inevitable, but it can nearly always be accomplished far more efficiently and economically in courses than in tutorial. To say this is not to say that tutorial is of little educational worth; it is only to say that it should be confined to its proper province. There, with *skillful tutors and with students who are adapted to this method* of instruction, it can be of immense value. Tutorial discussion, particularly when combined with the writing and critical analysis of essays, does more than give coherence to a particular field of study; it can also help to give a greatly increased breadth of view and maturity of judgment. Thus, although we suggest that tutorial should continue to be connected with concentration, we believe that it can make very great contributions to general education, inasmuch as the results of successful tutorial are to be found in increased skill in analysis and expression, in the capacity to deal with general ideas and to make and defend value-judgments, in those intangibles which are surely of the very essence of a successful general education. It seems reasonable to anticipate that as the number of instructors who have had experience

in the courses designed for purposes of general education increases, so will the contributions of tutorial instruction to general education be enlarged.

We assume that the tutorial system will not be used by any department which believes that this method of instruction is not well adapted to its needs. It is apparent that tutorial has not worked nearly so satisfactorily in most of the physical sciences as in the humanities and the social sciences. There are inevitable differences in the methods of teaching chemistry and philosophy. No sound reason exists for requiring all departments to use the same educational techniques.

It would be unrealistic to discuss tutorial entirely in terms of the contributions that it can make, and often has made, to education at Harvard College without considering also the burden that it imposes both upon the budget of the college and upon the teaching time of the faculty. Tutorial is a very expensive system indeed, whether judged in terms of expense or in terms of man power. It is to be remembered that tutorial has been added to an elaborate course system in which the undergraduate is offered an enormous range of choice in almost every department of instruction. Even those who are most enthusiastic about the tutorial system do not ordinarily advocate a drastic reduction of course offerings in order to provide additional time for tutorial instruction. Tutoring is, moreover, a very demanding form of instruction, at least if it be well done. No member of the faculty who offers courses for undergraduates and for graduate students, who is also probably involved in a certain amount of the administrative work which seems an inevitable concomitant of university life in America, can lightly assume the burden of any considerable number of tutorial students; and the fact is that very few of the members of the faculty who have attained professorial rank have been willing to give more than a small fraction of their time to tutorial instruction. Only a minority, indeed, have been willing to make even a gesture in that direction.

The situation with regard to tutorial varies greatly from department to department, but it seems safe to say that those departments having the larger concentrations (and in the years im-

mediately preceding the war, most of the students who received tutorial instruction were concentrators in five of the thirty-odd fields available in Harvard College) have delegated the tutorial task primarily to teaching fellows, annual instructors, faculty instructors — to members of the staff who were not on permanent appointment. This means that a very heavy proportion of tutoring has been carried on by young and relatively inexperienced tutors. Many of these have done really first-rate educational jobs. But unhappily a good many of them have not stayed at Harvard long enough to acquire skill in this very difficult form of teaching. Some of them have left before they were familiar even with the requirements for concentration and distribution, while others would never have been successful tutors, no matter how long their stay. No one will dispute the proposition that we have poor lecturers and poor section men at Harvard, but classroom teaching is much more open to inspection than is the work of tutorial. The traditions of the course system sometimes impose undue limitations upon the work of the very ablest instructors, but they also serve as guides and controls for the inexperienced or the capricious. The very closeness of the tutorial relationship, moreover, adds to the unhappy plight of the student who is assigned a tutor whose immaturity of judgment, emotional instability, limited learning, or devotion to his own graduate work makes him unsatisfactory as either a guide, a counselor, or an instructor.

It has occasionally been suggested that substantial economies could be made by substituting group tutorial for individual tutorial. If we may judge by the testimony both of tutors and of students who have received group instruction, the group method of tutorial is not one which can be generally substituted for individual instruction. Many members of the faculty who have had experience in tutorial seem to feel that group tutorial is ordinarily an unsatisfactory substitute either for individual tutorial or for the classroom, that it lacks most of the merits of both of those methods and has relatively few of its own. Although it has been and can be used successfully by certain tutors and under particular circumstances, it cannot be used by all tutors or with all groups of students. We conclude that no substantial econo-

mies can be expected from group tutorial, and that it should be used only by experienced tutors and only under favorable conditions.

There is another aspect of the personnel problem which deserves more attention than it has ordinarily received. This is the difficulty of keeping a sufficient staff of able and experienced young tutors long enough for them to be valuable to Harvard, and yet not too long for Harvard to be responsible for interfering seriously with their teaching careers elsewhere. We must continue to assume that, at least in the larger departments, most of the tutoring will be done by men who will stay at Harvard a relatively short time. This will, that is to say, be true if tutorial instruction be given to all students. In some departments unfortunate situations have arisen out of the necessity of keeping an exceptionally large number of able young men at Harvard beyond the time at which they would normally leave for teaching positions in other institutions.

We seem, then, to have before us the dilemma that a poor or inexperienced (the terms are not necessarily synonymous) tutor may be worse than none at all and the very real difficulty of keeping young men long enough so that they shall be valuable to their students and to Harvard, and yet not so long that their academic careers shall be impaired.

In a considerable number of the letters addressed by members of the faculty to the Dean of the Faculty the opinion is expressed that tutorial should be changed from a right to which every student, no matter what his qualifications or his performance, is automatically entitled to a privilege reserved for the competent and the industrious. Such a view is by no means new in the discussions of the tutorial system. In the very carefully considered Student Council report of 1931 appears the following significant statement:

> The introduction of the tutorial system has unquestionably had a beneficial effect upon the education of nearly every student in the College. At the same time, the true purpose of the system has been attained in a surprisingly small number of cases. While statistics cannot be formed for matters so intangible, the committee does

> not believe that it is excessive to say that from 50 to 75 per cent of the students in Harvard College, far from regarding their tutorial work as being the central focus of the College career, look at it as hardly more than a fifth course added to the schedule for three years. It is generally estimated that about half of the students are not capable of getting the highest benefits from tutorial work, although they gain some value from it. Of the remainder, even those who are reaping considerable benefits from tutorial instruction at present rarely get anything which approaches the highest practical ideal attainable.

Three years later the Overseers Committee published a report in which a similar point of view is expressed:

> At present it costs just as much by the hour to tutor the unresponsive students as the responsive, and the drain on the tutor's energy is greater in the one case than in the other. Since these are times when every item of expense must justify itself, common sense would suggest that tutoring be reserved in large measure for those students who can really profit by it. The tutorial system would be more efficient and would become all the more strongly established if its work were concentrated in the field of its major usefulness, and the resultant economies in operating costs would be considerable. Thus the practical and the theoretical arguments reinforce each other.

It was in response to the attitude expressed in these reports, and in accordance with a very considerable body of faculty sentiment, that in 1936 a committee of the faculty proposed a rather half-hearted application of the principle that tutorial was not for all students. This recommendation provided for the establishment by those departments which wished to do so of Plan A and Plan B tutorial. Plan A tutorial has meant ordinarily full-time tutorial, while Plan B has varied from a substantial amount of tutorial instruction to nothing more than the signing of plans of study at certain fixed periods in the year.

It seems to this committee that the time has come for Harvard College to recognize the impossibility of carrying both an extraordinarily rich system of course instruction and a tutorial system under which every student is given the benefit of individual instruction. We realize that it will not be easy to distin-

guish on any objective basis between those students who are best qualified for, and most deserving of, tutorial instruction and those for whom it has little value. Any basis of distinction will be imperfect. Everything considered, we believe that we should accept the principle that the tutorial method of instruction is one which is entirely defensible only when it is related to the work of those students who are candidates, or potential candidates, for honors. If we could expect to have really competent tutors for all students, the answer might be a different one. But all of the evidence, including the answers to the Radcliffe alumnae questionnaires, seems to show that poor tutoring is worthless, and there seems to be no possibility of securing tutorial instruction for all students which will measure up to the standards of Harvard classroom instruction. We agree with the Overseers Committee of 1934 that the tutorial system would be strengthened rather than weakened if we recognized more clearly the range within which it functions best, and concentrated our resources there.

During the last few decades the proportion of students who have been candidates for honors at Harvard has been very large indeed, ranging between 40 and 50 per cent, and more than one third of all candidates for degrees graduate with honors. We believe this to be an extremely desirable situation, and we think that every effort should be made to maintain, and indeed to increase, this proportion. Honors candidacy and tutorial instruction must be considered privileges worth working for. We believe this is feasible if the quality of tutorial instruction is maintained at a sufficiently high level. The allowance of course reduction in the junior and senior years for students who wish to do additional tutorial work makes honors candidacy attractive to some students, particularly to those who weary of course routine. Course reduction should not, however, be allowed to become an instrument of acceleration.

We have suggested that tutorial instruction is probably of limited value for those students who do not intend to be candidates for honors. We suggest further that it is of doubtful value for many sophomores, including some of those who are potential candidates for honors. Most students in their second

college year have not gained a sufficient mastery of any subject, nor have they attained a degree of intellectual maturity which will make tutorial instruction a sufficiently valuable experience to warrant the expense to the college or the time of an experienced instructor. We recognize that this is not true in all cases, and that for some students sophomore tutorial should be made available on the basis of criteria set by the several departments. Departments – or perhaps more truly areas – vary in their need of tutorial, and those which regard it as necessary to their proper ends should be free to make relatively greater use of it, if they adjust its expense to that of their course offerings. Other departments or areas may prefer to experiment in seeking comparable ends by smaller sections and discussion groups.

It seems desirable that the administration of the tutorial system be kept flexible. To that end we suggest that a final choice of students who are to be candidates for honors and who are to receive tutorial instruction in their senior year be not made until the beginning of that year. Only in exceptional cases should a man who has not attained Group IV in the rank list be allowed to work with a tutor in his junior year, and his continuance under the system of tutorial instruction should depend upon creditable performance in tutorial, as well as upon an improvement of his course standing. But tutorial should not be something to which even those students who attain the Dean's List (a B average or better) are entitled as of right, and any student who fails to take full advantage of his tutorial opportunity should be deprived of that privilege. Similarly, any student excluded from tutorial at the beginning of his junior year because of a poor course record, whose work improves materially during that year, should be allowed to become a candidate for honors and receive tutorial instruction during his senior year.

Our proposals envisage a tutorial system of instruction in those departments retaining this method for perhaps half of the student body during the junior and senior years, and for a somewhat smaller number of students during the sophomore year. We assume that every student should have an adviser during his sophomore, junior, and senior years, as well as during his freshman year.

The problem of advising is one of the most difficult of those with which a college administration is faced. Not the least of these difficulties is that several kinds of advice are required by students, some of which can be best given by members of the faculty, others by technicians. Thus the faculty member is not often qualified to give advice on questions relating to job placement, which are commonly dealt with by a placement office, and teachers generally prefer to leave psychiatric problems to a trained medical officer. Many questions involving the application of college rules and regulations are handled by the Dean of Harvard College and his staff. But the general advisory function is most effectively performed when it follows naturally and directly out of those relations which are a part of the educational procedure. The tutorial system has had the advantage of providing upperclassmen with advisers with whom they have had this direct and natural contact. If we limit tutorial instruction to about half of the men in the upper classes, it is essential that we replace the advisory function of the tutor for those not tutored by an advisory system which will retain the same qualities.

In making plans for such a system, we should proceed upon the premise that all students need the opportunity for direct intimate contact with a member of the department, or, when this is not possible, the area, in which the student is concentrating. It is also important that the advisory function be closely tied in with the Houses. Of recent years a number of men have been added to the House staffs to represent fields, such as chemistry, in which there was no tutoring. The expectation was that such instructors would act as advisers of the students in their fields affiliated with their House. This practice has, on the whole, worked admirably, and it should be taken as a model upon which to develop a system of advising for the upperclassmen in the Houses who do not receive tutorial instruction. Students not connected with a House should, of course, be assigned an adviser on the staff of the department in which they concentrate. It will be particularly important that the advisers who deal with sophomores have contacts with them which go well beyond the function of signing study cards and giving perfunctory advice about

the selection of courses. It should be possible for these advisers, at least for those who are in fields of concentration which offer tutorial instruction, to recommend reading to their advisees and to hold conferences with them (perhaps three or four times in the course of a year), both for the purpose of encouraging the students in their academic work, and also for the purpose of finding out which of those students warrant tutorial instruction during their junior and senior years. A good many students who, for one reason or another, have failed to do honors work in their freshman year have the capacity and the latent interest to do work of a higher standard if only they are encouraged and given sound advice at the time when they most need it. There will be other students who will not begin to take a serious interest in academic work until their junior year, and here, as in the sophomore year, the adviser can play an important part in helping to encourage the student and to recommend him for inclusion in the list of those who are to be tutored during the senior year.

For the successful accomplishment of this goal it will be desirable not only that such advisers be on the staffs of the several Houses, but also that they be men who are familiar with undergraduate work, including tutorial instruction and the system of divisional examinations, in their fields. In many instances these men will be tutors, who will thus serve as advisers for those students who do not receive tutorial instruction as well as act as advisers for their own tutees. In other instances they will be members of the faculty who are not tutors but who are interested in maintaining the close, human contacts with students which are not always possible in a college where so many of the courses are large and relatively impersonal unless some special device is employed.

The adoption of such a system should make possible the assignment of a considerably larger proportion of students in the Houses to advisers connected with their own Houses than has been true in the past. This would be the case since under the present tutorial system it has often been impossible to assign students to tutors in their own Houses because the special fields of the students and of the tutors did not coincide. Under the pro-

posals here advanced it would not be essential that the special fields of the adviser and the student coincide, although it would be desirable that the adviser be familiar with the requirements and the methods of the student's field. He might, however, be in a neighboring department, where circumstances did not permit the assignment of all students to faculty advisers in the field of their choice. It may be further remarked that the establishment of House conference courses of the kind referred to earlier in this chapter would also be helpful in giving to the Houses the intellectual vitality eminently desirable but not always successfully attained in the past.

We suggest that in those departments which have a divisional examination at the end of the senior year all men, whether tutored or only advised, be required to take such examinations. Ground covering can, and should, be left primarily to the courses. A final and general review of the field of concentration undertaken at the end of a college career has important educational values for all students, and no one should be deprived of them. It is possible that those students who do not have tutorial instruction will profit somewhat less than has been the case with students in Groups V and VI who, in the past, were tutored. But the evidence seems again to support the conclusion that a very large proportion of such students have done perfunctory tutorial work. The function of the adviser should include advice regarding divisional examinations, both as to the selection of courses and as to the reading of additional books or other materials. Departments and divisions may wish to make some distinction between divisional examinations taken by honors and those taken by pass candidates. It is to be hoped that the differences will be largely in terms of the kind and difficulty of questions rather than in terms of breadth of coverage. We can and should expect every student to master a considerable body of learning in his field. We cannot expect all of them to attain the same degree of excellence. Tutorial instruction, and that of an improved standard, should be provided for those whom Jefferson called "the best geniuses," for those students who are concerned with quality as well as amount of learning, with ideas and with values, those who have

questions to which they seek answers, and who have the capacity and the willingness to work toward the solution of those questions. It is for such students that the tutorial system is splendidly adapted, and it is for them that it should be retained and strengthened.

8

Harvard as a University College

WE have used the term, university college, once or twice so far to denote the particular character of a college which, strong in its collegiate tradition, is also influenced by a strong surrounding university. In the United States the college is far the older institution. Built on British models by the early colonists and ever more widely transplanted and acclimatized as the country was opened, it remained the almost universal institution of higher learning until the latter half of the last century, when the university was in its turn created, this time from Continental models. The resulting fusion of undergraduate and graduate departments in one greater institution has since become a characteristic, in many ways a unique, trait of American education. No two such institutions are of course identical. Apart from purely local coloring, differences of emphasis as between the college and the graduate schools give each its particular tone and individuality. Columbia differs from Yale, Yale from Chicago, Chicago from Michigan. At Harvard, the age, tradition, strength, and size of the college have enabled it to keep a kind of equilibrium with the graduate schools, which since President Eliot's day have likewise created their own very strong traditions. It is clear that most of the questions so far treated in this chapter in some way go back to this central question of the place of the college within the university, and it may therefore be well to end with a few words on the particular form of university college which exists at Harvard.

The modern college dates from the Renaissance, when it was

created, more or less in opposition to the then long-established European universities, as a place where students might live together and with their teachers for the purpose of receiving a rounded preparation – spiritual, intellectual, physical – for active life. It took its inspiration from the classical ideal of the complete man and was originally aristocratic in tone, a training place for the kind of universal gentleman described in Castiglione's *Courtier* or sketched in Shakespeare's picture of Hamlet as "the courtier's, scholar's, soldier's eye, tongue, sword." But in England, where this concept of the college alone took firm root, it was also shaped by the Puritan, antiaristocratic forces of the Reformation, which stressed not so much the rounded gentleman as the pastor and the religiously formed man of affairs. A passage from S. E. Morison's *The Founding of Harvard College* (pp. 56–57) catches amusingly the fusion of ideas which was carried from the old to the new Cambridge.

> One can hardly exaggerate the importance of this intrusion of 'young gentlemen' into the English universities, for there they remained, and to Harvard they have come. Owing to the fact that England simultaneously received the reformation, the renaissance, and this notion of a gentleman's education, there was brought about an unwilling compromise between gentility and learning, a rubbing of shoulders between the poor scholar and the squire's son, that has made the English and American college what it is today: the despair of educational reformers and logical pedagogues, the astonishment of Continental scholars, a place which is neither a house of learning nor a house of play, but a little of both; and withal a microcosm of the world in which we live. To this sixteenth-century compromise, become a tradition, we owe that common figure of the English-speaking world, 'a gentleman and a scholar.'
>
> Such were several among the leading founders of New England, and of Harvard: both Winthrops and both Saltonstalls, Downing and Bradstreet, Bellingham, and Peter Bulkeley, of whom Cotton Mather wrote, 'His Education . . . was Learned, it was Genteel, and . . . Pious.' To Harvard they brought a new zeal for scriptural religion and the humanist tradition. From her opening day, Harvard has included a large proportion of young men who had no professional intentions. They have been complained of by their more serious preceptors, these three hundred years. They have committed every sort of folly and extravagance. New colleges

> such as Williams and Amherst have been founded in order to provide a place where poor but pious youths could be educated for the ministry, uncontaminated by the 'rakehells,' 'bloods,' and 'sports' of Harvard — and the same class of students have flocked to the new colleges. Even after countless examples of gentlemen who have become scholars and scholars who have become gentlemen by this illogical commingling, there are some people who would admit none to our colleges but serious students, and others who would set a standard of luxury and expense impossible for poor students. As long as Harvard remains true to her early tradition, rich men's sons and poor, serious scholars and frivolous wasters, saints and sinners, puritans and papists, Jews and Gentiles will meet in her Houses, her Yard, and her athletic fields, rubbing off each other's angularities, and learning from friendly contact what cannot be learned from books.

But one further point should be noticed. It was remarked that democracy, by broadening the basis of government to include all the people, ideally demands of all the education formerly reserved for a privileged class. The distinction has ceased between inferiors trained only for practical tasks and superiors broadly trained for government. The Renaissance collegiate education was, in effect, precisely an education of governors — men rounded and supple enough to make decisions and sufficiently well educated to do so with perspective and a sense of standards. It is the mantle of this tradition which has descended on the modern college — even to some degree on the modern high school. Since the governor is now the citizen and no longer merely the gentleman and the aristocrat, then this "gentleman's education" has become the citizen's education. The Puritan influence mentioned above was a step in this direction. It is an education which looks first of all to general responsibility and competence among an increasingly large group.

By contrast the tradition of the university is a specialistic tradition. As the college goes back to the rounded ideal of the Renaissance, so the university goes back to the medieval specialism of the cleric and lawyer. This tradition has likewise been very greatly broadened in the course of time, but in the form in which it reached this country less than a century ago, it remained

strongly, perhaps increasingly, specialistic. Hence President Eliot's characteristic achievement was immensely to strengthen and, in some cases, to found the various graduate schools and to bring their enriching influence into the college, even, as was argued earlier, at some risk to the latter's traditional role. This was the origin of the university college, a place that remained henceforward still partly a training ground for citizens and cultivated human beings but now made room also for the first steps in professional competence.

The peculiar fact about Harvard is that this balance between the forces of the college and of the university, though sometimes unsteady and always subject to great opposing strains, has been kept. The same faculty teaches both undergraduates and graduates, and the most eminent men have often taken part in the elementary courses. Many juniors and seniors mingle in courses with graduate students. The recent creation of a seven-year program leading jointly to the degrees of A.B. and LL.B. has been an attempt to establish with the Law School the same close ties that have long existed with the Graduate School of Arts and Sciences. All this testifies to the force of the one partner, the university, in the union of university and college. What of the other partner? Its opposite force has been shown in the tutorial system, the Houses, and the system of divisional examinations and honors, so far at least as the latter have represented careful and individual oversight of students. It has shown itself also, and *perhaps chiefly, in the teaching of undergraduates by scholars* who, if undergraduate and graduate faculties had been distinct, would have given themselves wholly to graduates and to their own research and writing. An Agassiz, a James, a Haskins, a Kittredge, a Whitehead have embodied the ideal of the university college. The overworked dichotomy which would lead us to believe that the scholar and the teacher are necessarily different persons has been proved false by them and by others less distinguished. It is true that not all scholars have been able to relate their scholarship to the needs of undergraduates, but many have done just that superbly. Such men have had the power to open new worlds of learning, to set standards of rigor and honesty, to

suggest approaches to the great questions of humanistic learning, of society, and of science for which neither textbooks nor discussions could be more than pale substitutes.

Yet, as we have argued from the beginning, this element of roundedness which is of the essence of the college has lacked a vehicle peculiar to itself, in the sense that specialism, the university element, has had its peculiar vehicle in the system of concentration. We do not wish to indulge in black-and-white dichotomies of the kind just complained of. It is true that concentration has illustrated for many, particularly as regards method of thought, the very qualities which we have described as aimed at by general education. It is also true, as just said, that the greatest teachers have made of their courses something far transcending lessons in a special and limited subject. Yet the fact remains that the present system favors a specialism which only the strong teacher breaks through. Moreover, by the very definition of the university college, specialism is within limits right and desirable. What therefore is wanted — and, we believe, offered in general education — is a vehicle as proper to the element of the college as is concentration to the element of the university. We repeat that rigid distinctions here are misleading and even harmful. Specialism is not meaningless for general education, nor general education for specialism. Neither is the one uniquely the vehicle of the college, nor the other of the university. Yet their double presence would in fact express and embody the double nature of the university college.

Finally, a similarly loose but perhaps useful contrast can be applied to teaching. It has been said that teaching has naturally two phases: the Olympian and the earthly. In the Olympian phase, the teacher, actually or figuratively at some distance from the student, expounds the objective majesty of the subject — a majesty which exists, so to speak, whether the student heeds or not, which is greater than he and greater than the teacher, something austere and almost impersonal, a facet of the world. In the human phase, the teacher sits on the same level as the student, discussing the truth as it appears to each. The individual adjustment which each makes to the truth is then uppermost, and as the

teacher examines, he can also be examined. We would not say that the Olympian phase of teaching is proper to the university and the human phase to the college. Graduate instruction obviously involves discussion and personal oversight. Yet it is true that, in so far as the college aims to develop the total person, then it must attach special importance to this human phase of teaching. The justification of all teaching to some extent, and of this kind especially, is in the premises of the democratic way of life: teaching is important because the human being has value in himself — not as a potential scholar but as he actually is with his actual capacities and limitations. From this premise follows what was said earlier about the place of tutoring, advising, and small discussion groups in the college as a whole and in connection with the Houses. The university college must use both methods, the human as well as the Olympian, to fulfill its proper purpose.

What is this purpose? It is to give to the nation and the world so far as it can both trained skill and responsible judgment. If one tried to estimate, for example, Harvard's contribution to the war, what would come first? Would it be this or that instrument or discovery which has saved lives or helped win engagements? Would it be technically skilled persons in necessary posts? Would it be the man of broad human wisdom whose ideals stirred and led the nation? Would it be thousands of humbler men, each responsible in his separate duty? Obviously one could not choose. All are necessary; none could be foregone. Just so, the concern with the individual which is at the heart of the college and the advancement of learning which is at the heart of the university are likewise each inseparable and indispensable.

CHAPTER VI

General Education in the Community

I

Distractions and Obstacles

IF the principles set forth in Chapter II are accepted, certain outcomes as to postschool and out-of-school education follow. The purpose of this chapter is to discuss these, to note some of the opportunities which are open to us and the forces which could bar us from them, to review our resources and make what tentative estimate we may of the state of the battle. The original title of this committee contained the word "objectives." That is a term current in educational jargon but it almost belongs today to military science, and, though some of the implications of the comparison may be regrettable, it is clearly useful. We have been concerned with the strategy in the first place, to a less degree with the tactics, and in some measure with the logistics of an enterprise which is rightly to be regarded as a struggle. The struggle is as old as man himself. It may be looked upon as man's effort to become in actuality more nearly what he is in idea. It will continue while man remains and any assurance anyone may feel as to ultimate victory is questionable. But our business is with the contemporary phase. There is little doubt that as much now turns on what happens out of school and after school as on what happens in classrooms. It is clear at least that in the measure in which in-school work fails in achieving its aims, the need for means and agencies to pursue them out of school is increased. It is equally clear that wide success in continuing out-of-school education depends upon what has been done in the years of compulsory study.

How successful the schools are is a moot point; but few, probably, will deny that school achievement commonly falls far short of what is required by a just conception of the dignity of man. The rejections by the armed services on educational grounds are one index. The estimate that the loss will amount to nearly a million able-bodied men will probably prove too low. By the 1940 census there were over ten million illiterates in the United States and approximately two million children between the ages of six and fifteen not attending school. The National Education Association finds that nearly twenty million of our voting population had less than sixth-grade education. These are uncomfortable figures. No one will be content to allow so large a proportion of the community to remain so ill equipped either as human beings or as citizens of a democracy. Less precise and ponderable are the judgments of publishers, journalists, advertisers, radio-program directors, and motion-picture producers as to the capacities and interest of their publics. And the experience of the opinion-poll experts does not run counter to the general trend of these findings. In view of recent advances in physical standards of living and the resultant opportunities, the lag in education seems the more shocking. These very opportunities indeed – to "go places" or turn on the juke box rather than to talk things over or think things out – may tend to keep wisdom back. A schooling better aware of its aims may come to see in contemporary distractions some of its major opponents.

These are evidently matters of valuation and can hardly be proved. It is less debatable that the schools leave much undone and that means for supplementing and continuing their work out of school are still extremely deficient. But that is the negative way of putting a point which needs positive statement more. The positive statement takes us back to the nature of man and to the four characteristics described in Chapter II as aims so important as to prescribe how general education should be carried out and which abilities should be sought above all others in every part of it. These abilities, it will be recalled, were to think effectively, to communicate thought, to discern relevance, and to discriminate among values. To call them characteristics or abilities does not

perhaps suggest clearly enough that these are *not* powers adventitious to man but "his glassy essence." They are what makes him man, and his prime business, to which all else is means only, is with their growth in himself and in others. As stated, they may look like means themselves to some further end. But looked at more closely, in their integration, they are his being and his end. He is his endeavor to grow in them. As this endeavor flags or is frustrated the less human he becomes. His education accordingly, in the deepest sense, is the development of these powers toward their and his perfection.

Any attempted description of these constitutive human powers will, perhaps necessarily, be incomplete and misleading. Descriptions here are a means of recollecting, of reminding ourselves of what we know. There are many such. It is interesting to compare three descriptions given in very different epochs and in the terms of very different traditions. In Mencius' famous parable:

> The trees of Niu hill were once beautiful. Being in the suburbs of a great city, however, they were hewn down with axes and bills. Could they retain their beauty? Still, through the growth from the vegetative life day and night, and the nourishing influence of the rain and the dew, they were not without buds and sprouts springing out. But then came the cattle and the goats, and browsed upon them. Thence came the bare and stripped appearance of the hill. People seeing this think it was never finely wooded. But is this the nature of the hill?
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> Even so of what properly belongs to man. Is what is left of any man's mind ever without love and justice, without courtesy and knowledge of right and wrong? The way in which man loses his proper goodness of mind is like the way in which the trees were denuded by hatchets. Hewn down day after day, can it retain its excellence? But there is some growth of its life night and day, and in the calm air of the morning, just between night and day, the mind feels in a degree these desires and aversions which are proper to humanity; but then it is fettered and destroyed by what a man does during the day. This happens again and again, the night breath is not enough to preserve the proper goodness, and he becomes not far different from the birds and beasts. When people see this, they think his mind never had these endowments. But is this man's propensity?

> If it gets its nourishment, there is nothing which will not grow. If it loses its nourishment, there is nothing which will not perish.

A few years before this Plato was writing:

> As it is, we have given a true account of the soul in its present appearance. But we have looked at it in a state like that of the sea-god Glaucus: whose original nature can no longer be readily discerned by the eye, because the members of his body have been broken off or crushed and in every way marred by the waves, and incrustations have grown over him of seaweed and shells and stones, so that he is more like any wild beast than his natural self. The soul which we behold has been brought to a similar state by a thousand evils.

Modern philosophy puts the same point this way:

> Now, let us go quite a way from physics and consider an oak tree. There is evidence, we saw, for the norm of an oak tree. A botanist or horticulturist could tell us in great detail what is the *normal* growth and appearance of any particular variety of oak. Give the oak suitable soil, water, sun, fertilization, and freedom from other vegetation, from insects, and the like, and the normal oak will be exemplified. The law of the oak will exhibit itself in concrete existence just as the law of gravitating mass exhibited itself in the dropped ball. But plant the oak in poor soil or on a windswept hill, or in a thick forest, and it will be distorted from its normal growth just as the planet was from the normal gravitational path. This distortion will be a resultant of the forces of other laws in which the characters of the oak participate in conjunction with the normal law of growth of the oak.
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> The same distortions occur for the same reasons in the norms of animals, of men, and of human societies. (Stephen C. Pepper, *World Hypotheses*, p. 179.)

Man, these agree, has his norm, and the account of education we are giving here agrees too, without, however, professing to give an adequate statement of the norm. The apprehension of the norm — by approximation to it — is education itself, which is thus its own aim. Books about education are not competitors.

But we can discuss the means to be used and the dangers to be met, and in so doing we must ignore neither the influences of the schools upon the community nor its influences upon their prod-

ucts. Mencius' hatchetman and his goats hew and browse alike within and without the schools. It is what happens after the schooling period and what should and should not happen which concern us now. If we are tempted to blame the schools for the bare and stripped appearance of too many ex-students in later life, we should not forget what the world is endlessly doing to them. And here what happens in the immediate postschool years has especial importance.

2

Adults as Learners

POSTSCHOOL education has both perennial and emergency aspects. Within the long-term program place has to be found for measures to meet postwar conditions as these affect the youth who has just left school. Even though employment be high following the war, it seems likely that there will be an unemployed group of younger people of considerable size. In the depression years, as was said earlier, the out-of-school and unemployed group amounted to about a third of the age range from sixteen to twenty-four. The proportion of those unemployed was largest, of course, in the lower age ranges from sixteen to nineteen — the forming years in which those who have got least from their schooling can often make a new start and in which even those who got most are in the greatest danger of losing it. As we also saw, young people, even in prosperous times, may be both unemployed and out of school. In many cases the economic resources of the family are not sufficient to permit attendance even at a public high school. In perhaps as many cases the paucity of offerings at the available high school does not allow the student to take the particular course he needs or desires. On the employment side there is a lack of opportunity in many parts of the country. This lack of opportunity is most marked in those very sections where the proportion of the young to adults is highest, the very sections where opportunity is most needed. Labor laws

vary with the states, but in many instances they have the effect of prohibiting young people from engaging in a regular job around the time when they withdraw from school. Further, some industries and some unions have set up their own stringent regulations to keep youthful competition out of the labor market.

However this may be, it is unwholesome at this stage for boys and girls both to be away from educational influences and without the discipline of some kind of job. It is wasteful. It exposes the human sapling to countless evils just when it is at its most vulnerable stage, the stage too at which help for its sprouts can most readily be given. To deal with this situation the federal government set up two major agencies in the past decade, the Civilian Conservation Corps and the National Youth Administration. While both agencies are now out of existence, their experience may be useful for future planning.

During its existence the C.C.C. employed over 2,500,000 young men and unemployed war veterans. The administration of this agency was the responsibility of the War Department. Its work consisted chiefly of camp operation, reforestation, and soil conservation. Most of those enrolled were seventeen, eighteen, and nineteen years of age. The cost was approximately $1200 per year per person. The values gained by the individuals and the community do not lend themselves to computation. In terms of contribution to the war effort alone we might well put our estimate high. On an over-all view they will be far higher. An educational program was provided, but this was both less imaginatively conceived and less successful than the other aspects of the Corps. The N.Y.A. program may be divided into two chief components. In one phase it provided part-time employment near home for 1,750,000 out-of-school young people, and in the other it administered a work program for approximately 1,800,000 students in schools and colleges. There was little criticism of the N.Y.A. student aid but considerable criticism of the effectiveness of the out-of-school program, in some cases because it set up educational facilities similar to those in the existing school systems but less well operated. In other cases the criticism was based on "boondoggling" of the W.P.A. variety on a junior level.

Since C.C.C. and N.Y.A. drew from the same group of young people, any reconstruction of their program should be integrated. The Educational Policies Commission has recommended that to avoid duplication the future administration of the out-of-school program be coördinated with the public-school system and be under its direction. Further, it is desirable that in any reconstruction of these agencies more provision be made for what is frequently called citizenship education. How this may best be done with the out-of-school group still calls for much experimentation, in which self-government within constructive projects may have an important place. As was said in Chapter III, the great task of general education is to adapt itself to different abilities and outlooks, yet remain in goal the same for all.

In addition to the N.Y.A. and C.C.C., there was a tendency in some cities in the thirties to establish public-school centers for older youth which performed counseling and placement service in addition to providing education in civic affairs and training for vocational skills. Some of the techniques of these schools, such as the Opportunity School at Denver, might well be emulated in other sections of the country. European and English experience also provides useful guidance. For example, the Folk Schools in Denmark and the village colleges in England proposed in the R. A. Butler report show further ways of continuing general education for those who leave regular school early. But we do not need to look abroad to see what community colleges may do. The junior colleges in California, for example, are now serving both the out-of-school and adult population to a degree unexpected even by their proponents. Of 166,000 students enrolled in these institutions in 1943, three fourths were part-time and adult. Where the junior college has actually become the "local academy of learning," it may serve admirably the purposes we have described.

Promising, also, are the various types of coöperative work-school programs which have developed in various parts of the United States. Where these work-school plans include a generous time allowance for materials dealing with social understanding and cultural heritage, they are particularly valuable. It is of

considerable interest that in these school-industry arrangements, industry, quite as much as the schools, has evinced a desire for an admixture of general education in the training for vocational skills. The same is true of the recommendations which labor is making.

A special problem within a special problem concerns postwar provision for illiterates. Between June 1, 1942, and May 31, 1944, some two hundred thousand "functional illiterates" were inducted into the armed forces. Considerable numbers of these then went to school, often with results which put previous efforts to teach them to shame. The Navy Special Recruit Training Program has reported most encouraging experience. The older men, while unable to learn as rapidly perhaps as their younger mates, showed a stronger drive to learn the fundamental skills. They had not shown anything of this sort before. What had been holding them back?

The answer is, low educational standards within their communities. A community which regards illiterates as normal, or tacitly exempts them from higher standards as incapable of anything better, takes from them the one thing which might help. In the Training Centers all this is changed. The trainee has been well shaken up in a wide variety of broadening situations; he joins a group as undereducated as himself; scornful young persons are no longer in sight; and, above all, learning to read and write become first steps to needs clearly seen. Add to all this intelligent instruction, which grades his task for him, and the outcome can be surprising. Illiteracy is largely a consequence of bad tradition. These programs offer a remarkable opportunity to crush illiteracy at its source in such men's families – if demobilization does not discontinue them without providing means to carry on the work. It is the responsibility of the schools to see that what has been learned about illiteracy in the war-training effort is not overlooked in peacetime.

When we turn from the education of out-of-school youth to the great multiplicity of influences which go to make up what we call adult education, concrete suggestions are harder to make. Certain it is, however, that as the proportion of adults to youth

steadily increases, adult education becomes a more important key to the health of the body politic. Adults, not young people, set the tone of a community. Almost inevitably, school people, and also the general public, overestimate the importance of the influence of schools and colleges in forming the individual's character, beliefs, and habits of thought. The community outside the schools has a weight and influence the schools cannot possibly have. If life in the community fails to illustrate the teaching of the schools, the individual is more apt to conform to the community mores than he is to hold fast to the teaching of his school or college. And yet the salvation of the community depends upon those individuals whose education gives them the moral and intellectual strength to stand out when necessary against the majority. It may be added that such are precisely the men and women for whom an adequate system of adult education should find work to do as teachers.

The types of adult education may be loosely divided into two chief forms: school and college sponsored and community sponsored. The former consists of the myriad of courses given under school auspices, sometimes for credit, sometimes not. In these programs every attempt should be made to keep the break in learning between school and adult life as brief as possible. Obviously, there is an advantage for the individual and the school if adult work is begun as soon as possible after regular education has been discontinued. On the other hand, adult and in-school work are in many respects very different. The transition calls for drastic changes of pattern to accord with the change of initiative.

In many instances, nonetheless, the school itself should be the civic center for adult education (although the public library may serve the same purpose if the school is poorly located). New school buildings should be designed with more comfortable lounge rooms where adults may smoke, relax, and hold discussions. Old buildings should be altered as much as possible to meet the same need. The economic waste which is represented by the closing of an expensive plant like a school building in the middle of the afternoon, in the evenings, and during most of the summer,

should not be permitted whenever and wherever there are adults who wish to use the building for educational purposes.

As a civic center, moreover, the school can and should serve as meeting ground and channel for all the other community agencies of public welfare. The museums, the parks, the town libraries, the cultural and instructional programs of radio, movie, and, in due course, television, the many existing social agencies, the men's and women's clubs, all lose many of their opportunities for service through lack of effective means of bringing to general notice what they have to offer. Announcements, programs, and syllabuses, however widely displayed, do not do what is needed. They may catch the eye, but they rarely catch or hold, much less create, enough interest to bring in any but the hardened and habitual lecture-goer. The great mass of those more in need of the awakening and diversification and development of their curiosities are untouched. Humble people, especially, are often barred off, by their very virtue, from chances which should be especially theirs. They need skillful encouragement of a sort which experienced teachers of adults know best how to give. And though we should not underrate the tact and power of persuasion which advertising at its highest can exert, nor neglect its great possible services for fear of the obvious dangers, it is probably true that only personal contacts can penetrate the insulations of distrust, shyness, and self-depreciation which with so many keep educational velleities from passing into action. It needs no intense effort of imagination to realize the reluctance, the hesitation, the fear of "giving oneself away," of finding oneself out of one's depth, with which most self-critical adults consider the taking up of a new enterprise in learning. These are feelings shared by modest minds at all levels. They are greatly reinforced wherever there is any record of ill success or of the discovery that what was sought turned out to be very unlike anything hoped for or expected. And it is these minds, rather than the brash dreadnoughts of the classroom, which can in the end learn most with profit to others as well as themselves.

These reminders seemed desirable if the fundamental difficulties of adult education were to be faced. Apart from a happy

few, who are not in our picture, most adults have considerable experience to justify them in shrinking from the strain of attacking any subject which is not immediately intelligible to them. Recognizing this, much adult education has chosen, as the path of wisdom, to scale down the demands made upon the students to points at which it may be doubted what, if any, the remaining educational value may be. "The main thing, at first, is to get them to come," might represent the justification of not a few courses. It is a sound justification if the students continue to come and if what follows later does give them some solid gain from coming. When it does not, the disappointment adds to the handicaps of future efforts.

Such reflections will be familiar to all who have had to do with adult education programs. They lead not to pessimism but to the conviction that adult education, more even than school education, needs the most considerate planning human beings are capable of. Its delicacy reflects the sound instinct, as well as the acquired inertia, of the adult student. In the school, moreover, we have better chances of retrieving our mistakes. But planning must assume counseling. The best programs will miss their effect if the right students are not somehow guided to the right courses or study groups, and prepared by discerning advice for what they may rightly expect. And here great difficulties appear. Counseling, even in the best school systems, is still something of a hit-or-miss affair in spite of all the tests and other school aids available. In adult education, counseling is vastly more difficult, calls for greater tact and discernment and is, as yet, little more than an educator's dream — as indeed an adequate provision for adult education itself is.

Nonetheless, once the need for an adequate provision, its possibilities and the general gains it would bring are clearly seen — also the trends which are making it every year more necessary — it is hard to doubt that immense developments will be forthcoming. Among these trends two may be mentioned. Medicine has altered the normal expectation of life. As the proportion of older to younger persons changes, continuing adult education becomes more and more necessary to keep a society from spiritual

senescence. Secondly, the machine age is but beginning. Leisure, the name the future will have to give to unemployment, is opening out before mankind as widely as the Pacific Ocean spread before Cortez. It is no wild surmise that a chief adjustment we will have to make soon is the replacement of needful toil by other occupations. We are making it already or failing to make it with every reduction in hours of labor. And the dangers of idleness, we know today, are very far from being merely proverbial. We have seen how a Hitler can turn a people from unemployment to war. We have not yet seen as clearly how education can be made not merely a preventive but, in William James' phrase, the moral equivalent of war. To use a previous figure of speech this means a Jacksonian raising of the many by education.

The unparalleled growth — we almost said eruption — in our school system was the point with which this report began. A parallel growth or eruption to be expected in postschool invitations and aids to further learning seems to be what its conclusions indicate. In the measure in which the schools succeed this development becomes the more likely. General education perpetuates itself, if only by seeking endlessly to discover what it itself is. In Chapter I we compared the present diversity of offerings in the high school to a clouded mirror reflecting dimly the diversity of our society itself. One great function of adult education is to provide a still more comprehensive reflection, but cleared and refocused by our utmost endeavor to the vision of those who have passed out of tutelage, to become in the measure of their awareness guardians of the republic.

We have considered some of the psychological barriers to the growth of such a program. They pointed to the need for information, discriminating advice, and helpful introduction to the available offerings such as only an extensive guidance system could provide. The cost, the shortage of experienced and skilled advisers, and the administrative problems may look formidable, but so were, and still are, the parallel difficulties of the high school. The educational luxuries of one age have a way of becoming evident necessities to the next, and the federal government, states,

and localities can afford to sponsor programs so much in the common interest.

It will not be found that adults are solely or mainly interested in educational services which benefit them vocationally. For example, "less than 8% of the activities of the well-known Shorewood Opportunity School, Milwaukee, Wisconsin, are vocational," [1] though as small a percentage as this is unusual. Vocational instruction stands on a special footing. Success in it dispenses in a large measure with the need for continuation. It can come to an end, its purpose can be fulfilled. But general education, as we have conceived it, is endless, since it serves those of man's needs which are inexhaustible. It is true that if the schools could do for their students all that we could wish, their graduates would have been readied to conduct their own education throughout the rest of their lives for themselves. This report thus far may have seemed to conceive of education as solely a relation of student to teacher. Yet education is primarily self-teaching. The classroom is to show the student how to instruct himself and to save him time in this attempt. Its aim is to aid him toward enterprising independence, toward free curiosity, and toward persistence in self-learning. But no realist will question that, as things are, relatively few adults left to their own devices will go far. The day's work, its relaxations, its most commonly proffered amusements prevent progress. Without tempting and repeated invitations to start new or refresh old interests, and well-ordered food and care for them, not much growth is to be expected.

The day's work, of course, may itself be highly educative. Some sorts of work are. A more widely spread concern for education would demand that as many sorts of work as possible be made so, if need be at some cost in productivity. Some corporations have been wise enough to see this. But within the terms of our reference we have to consider, rather, those forms of organized opportunities for enhancement and inquiry which go by the names of cultivation and study.

Both names may give us pause. "Cultivation" may suggest

[1] According to the *Educational Yearbook for 1940*, p. 358.

artificialities and acquisitions rather than the maturing of the whole man. "Study" carries connotations which are somewhat narrowly scholastic. The adult and the out-of-school youth needs — and this touches the heart of the problem — to escape from the classroom atmosphere. And he needs guides who have escaped from it too. Coleridge rightly said that teachers have "a mental odour." It is the mark their high profession puts on them. In place of the formal teacher the adult needs the person who combines wisdom and practical experience. But he must be able to teach nonetheless. He must know what should come before what and for whom, and be able to control a discussion with this in view. He must be able to explain, to encourage, to provoke, and to disturb. He must, in fact, have all the gifts of the teacher and exert them without the advantages of the teacher's position and powers of compulsion. Above all he must be able to meet others on that most obvious, elusive, intangible plane, their common nature as human beings. And here is the hindrance. The bottleneck of adult education programs is a shortage of such skillful human experts.

It is no small part of the argument for general education, as we have conceived it, that those in whom it has been well furthered in school and college are more likely than specialists to be good guides for adults. They are more likely to have kept the common touch and to remember what is being attempted. They are more likely, also, to find in adult education, which has no glittering prizes to offer and calls for all the proverbial patience of the saint, a satisfying life and even something of the reward of a ministry.

As to the give-and-take of discussion, it may well be that help here is to be found in the techniques of the progressive schools. Ways of conducting study there developed may prove to have their best application with adult groups. Be that as it may, it is certain that the successful instructor of adults needs both exceptional resourcefulness and all the help he can get. The proportion of adults who drop out of the classes they have been enterprising enough to enroll for is eloquent testimony on this.

Here comes up the question of texts and textbooks. There are very few expositions of any subject which are at all well suited

to the adult beginner. They either assume too much, leave him page by page at a loss, and invite him to acquiesce dishonestly in what is not understood; or they attempt to drag him through a systematic treatment which his incentives are far too weak to sustain. In a heightened degree this is a situation all too familiar in the schools. As we had occasion to remark in that connection, one of the great challenges to scholarship and technique in education is the provision of more suitable texts and textbooks. It arises conspicuously with adult students for whom the original texts of the great works of our tradition have special value. These are the people who have learned through life. More information is not their goal. They want human understanding and insight at its highest.

The systematic study of design in exposition is one of the most strangely neglected fields of educational inquiry. Many subjects — mathematics and languages exemplify them preëminently — have an order of presentation which, when it is worked out, is easier, less confusing, less subject to mutual interference between its steps, than any other. Yet, except in arithmetic, the search for these optimum orders has received singularly little systematic attention. Tradition, fashion, and hunches still take the place of radical research into the principles of comprehension. Until texts which have full regard and respect for the learner's mind are forthcoming, much educational effort of adults and children alike will continue to be needlessly frustrated. And this frustration is the more serious because whatever the developments, they will never replace the deeper meanings of the texts.

3

New Media of Education

MORE important still, the needed boost to conventional texts may come through an extension and supplementing of them by films and television. In both there is much experimenting and postulate searching in progress. For their more sustained enterprises

— language teaching and continuous courses of study — films and television alike require printed matter designed to have a live relation to the sound-motion presentation. The challenge to the text is given when the screen ceases to be a mere illustration or adornment to the language and becomes the equal or superior medium of communication.

Something of a revolution is indeed taking place through these new means of bringing the world itself, and clarified versions of it, to us. Traditionally language deputizes for what has to be absent. It tells us what we might see or hear. But too often it gets in the way of, or replaces, all that could give it a meaning. "Through the words I have mastered, I have come to appreciate the beauty of the great outdoors," said a favorite "Pupils' Creed" written for eighth graders. Today there is a better chance of turning the poor pupil right side out again. Now that the things and events themselves can be brought to us, the role of language is reversed. Instead of words having to explain or represent things, it is rather things, and actual processes taking place before us, which explain words or call them in question. In the making of a good instructional or documentary film the duties of language are searchingly looked into and the needless obscurities of traditional texts are exposed. A healthy criticism is started and language, gaining a rival in its new partner, has now new standards of lucidity to live up to.

The chief success of sound-motion teaching hitherto has probably been in vocational rather than in general subjects. It is easier to judge success in a riveter's training than in morale building, for example. "Estimates of time saved in training technicians for war industry and in the training of military personnel vary from 25 to 75 per cent," said the Commission on Motion Pictures in Education of the American Council on Education. Enough has been done in all fields, however, to show that the high hopes early expressed for those aids were not, after all, excessive. There is good evidence that they can greatly increase both clarity and interest of presentation in many subjects. Furthermore, long retention of content and of meaning is improved, sometimes in a measure great enough to be decisive. Students cease to feel that

they are being "slidden back by a perpetual back-sliding" on their steep path to understanding. There is reason to expect especial advantage from these aids in the attack on illiteracy.

Films to teach and support early steps in reading are near the bottom of the ladder. It would be rash to say how far up the movie can go. Certainly the parts it can play with good effect are many. Films serve particularly well as awakeners of interest. They can present a theme, biographic, historic, or moral, with a massiveness of impact which for a while would make the impulse to continue by nonconventional methods all but irresistible, were these methods appropriately related. That is almost never the case. The exceptions are movies which profess to be well-known books "in film form," and too often in these so much violence has been done to the original that reading "the book of the film" is commonly disconcerting. As a rule the values which gave the book its permanent interest are replaced by more instant and transitory lures. There is nothing in the nature of the medium, however, to cause this. The fault is with the director's defective ideas of his function.

On the documentary rather than the theatrical side things are different, and numbers of excellent pictures have been made, many of them on "human geography" in the widest sense — occupations, regions, social problems, coöperative cultures. Strangely little in comparison has been done in a documentary fashion with history. Theatrical pictures exploiting famous personages are of course frequent, but the use of the tremendous resources of the medium to put, say, Renaissance Europe on the screen with the aid of Erasmus' *Colloquies*, for example, could be an immense educational eye opener. Charles Reade's *The Cloister and the Hearth* could supply a framework upon which a thousand details of custom and craftsmanship, living conditions and social structure could be mounted. A thread of adventure would not be lacking. A rich contemporary background of reading, music, and art would not be hard to provide. Numberless opportunities in fact await producers aware of educational aims and with enough imagination to pursue them. The movie has proved itself to possess the power, if there is the wisdom to use it.

Somewhat less encouragement can be drawn from the probable future of radio in education. It has the defects of blindness, though great skill is constantly displayed in overcoming or diminishing them. From the nature of the medium little is known, or can be expected to be known, as to its effects. We are in a realm of surmises here where extremely powerful interests wittingly and unwittingly influence us. The obvious utilities of radio in distributing news and speeches, in arousing interest in current questions, and as a channel for music, its powers in light entertainment and as distraction and occasionally in drama – all these familiar things do not show how deep radio impressions commonly go. The common listener's habit of "leaving it on" while ordinary conversation continues (and sometimes even serious study needing much concentration) must raise doubts on the point. The long-term effect of this background upon the quality of the living it accompanies is a matter on which objective evidence is unfortunately lacking.

As a medium for discussion, radio suffers from the superior attractiveness of a dogfight to an ordered exchange of views. In general, the program director is incessantly in the position of Horace's poet – wishing "either to instruct or to amuse or to combine the two." The combination is the point of difficulty. Without great care his offering does neither. Instruction pure wins him credit, but amusement gets him listeners. In the setting in which most listen, with rival programs of all sorts waiting on *the turn of the dial, there is a heavy drag against any wide raising* of the educational level. Against this, however, successes with music must be set. But music is the art of the ear. There are no comparable successes with arts of joint senses – drama for example. Without the actor's visual presence, Sophocles and Shakespeare do not go down. Any tear jerker concocted for the ear alone beats the "holy poets' pages" every time.

Be this as it may, much uncertainty inevitably exists as to what is listened to, and how, by whom. Methodical inquiry into such things is as yet but beginning. The work of the rapidly developing agencies for listener research shows the opportunity, the promise, and the difficulty. Meanwhile a shower of technical

innovations in communication descends upon us, each enough by itself to originate an epoch. And the psychologic assumptions, the philosophic coördinates upon and by which to test and place them remain "with one foot in the unconscious and the other in the Middle Ages." We are at a turning point indeed in human affairs though we can do no more than guess what vectors may be needed to describe our spin.

General education is the sole means by which communities can protect themselves from the ill effects of overrapid change. For its concern is with what is the same throughout all changes and with the very process of change itself and the techniques of taking account of it. Political trends and upheavals naturally engage our attention to the neglect perhaps of wider and deeper changes. The coming of steam was a larger event in human history than all but the greatest changes in government, larger not as a material event only but in the spiritual transformations it is still inducing. With it man began to inhabit his planet as a planet. Increased physical mobility has naturally increased the scale of wars, which is a reminder that danger is inseparable from power. The press, radio, photography, television – our progressive disembodiment – and indeed all increased means of mass communication have their dangers too. Propaganda, which is their political aspect, has attracted perhaps more than its share of critical attention. Advertisement has received some share, but chiefly in its quality of a potential threat to the consumer's judgment. More dangerous, because more general and because it threatens the spirit rather than the pocket, is the degradation which language undergoes when the greatest words are most often met in servitude to mean or trivial purposes. "In a world of strife, there is peace in beer." That slogan was no invention of a satirist. It adorned many a newspaper in the days before Pearl Harbor and is but one example, less harmful through its very fatuousness, of the modes of attack to which mass communications expose standards in all fields. Against them we can only oppose general education at all levels. With such possibilities in mind we do well to remember Hector's words in *Troilus and Cressida:*

> The wound of peace is surety,
> Surety secure.

Or, as Poor Richard had it, "He that is secure is not safe."

Such dangers, however, are a spur to a widened and livelier sense of responsibility, individual and collective. Enlargement of the common concern is indeed the distinctive character of our age. Not very long ago the mass of mankind could and did leave peacemaking, for example, to statesmen. Today most people feel some of its weight on their shoulders. Even one generation back, how other people lived was not their business; but all men are neighbors now. Among and beyond all the local and personal motives which drive men to pursue education, this budding collective responsibility year by year grows in power. And as it grows it profoundly influences some immediate motives. The desire to get on in the world or to advance the status of the workers, the two chief drives which have animated out-of-school education hitherto, are being transformed by it into wider interests far more favorable both to growth in democracy and to the final causes for which society itself is only a means. "War is the great educator," as enemy propagandists have said, though hardly with this in mind. It has shown us that in technical instruction we have been sadly unambitious and unenterprising. It has shown us equally that in general education the strongest incentive comes from the whole man's awareness of his share in the common fate, of his part in the joint undertaking.